

Treasure Coast Ham News

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NEW YEARS RESOLUTIONS FOR HAM RADIO

1. Try CW (the original digital mode), SSB & RTTY
2. Try Parks on the Air (POTA) and experience the fun
3. Elmer a new ham
4. Have a real QSO with someone in a new country
5. Clean out the shack of all those half-completed projects
6. Or instead, finish all those half-completed projects
7. Volunteer to help your radio club with a project
8. Write down one thing about ham radio you are proud of
9. Talk to a friend on SSB instead of emailing or texting
10. Stay in touch with an older ham who is no longer active

Treasure Coast Ham News is retooling the newsletter.
Please bear with us in 2023 as changes are made.

From the Publishers

We hope your Hanukah and Christmas holidays were filled with good conversation and happy times with family and friends.

* * * *

With the new year I have been reflecting on amateur radio's journey since its inception. The following history was taken from the IARU website.

1900-1920 In the footsteps of Marconi and other pioneers, thousands of young experimenters built simple "spark" transmitters and receivers to send Morse code around their neighborhoods. Licensing was introduced in 1912. Amateurs organized clubs and national associations. During World War One amateur stations were shut down. Advances in radio technology were quickly adopted by amateurs.

1920s & 1930s Vacuum tube (valve) technology replaced spark, reducing interference and increasing global range using relatively low power and small backyard antennas.

1940s The second World War once again caused amateur radio to be shut down in most countries. After the war, surplus radio equipment was plentiful and inexpensive. This allowed amateurs to upgrade their stations and for the first time explore UHF and microwaves. A new mode, radio teletype (RTTY), began to be heard on the amateur bands as a result of the surplus bonanza.

1950s & 1960s Single sideband (SSB) increased efficiency and reduced bandwidth of voice communication. Mobile operation became popular. Amateurs tuned into the first signals from space after Sputnik was launched. Heathkit captured a large share of the home-build market. Amateur radio enthusiasts built the first amateur satellites. Amateur two-way communication reflecting signals off the moon (Earth-moon-Earth, or EME) was achieved. Japanese radios began appearing in ham shacks.

1970s & 1980s Amateurs began using space communication. VHF/UHF repeaters extended the range of FM radios. Technically enlightened CBers began a migration to amateur radio. Microprocessors gave cause to the development of digital amateur radio. AX.25, "packet radio" became a tool for message forwarding. AMTOR was adopted for error-free data communication on the HF bands. Amateurs were able to communicate directly with the Space Shuttle and International Space Station in low earth orbit.

1990s & 2000s The internet became a challenge and an opportunity for amateur radio youth and enthusiasts. PCs became a permanent fixture in most ham shacks. WSJT, the amateur radio weak signal digital mode software was introduced and has considerably eclipsed CW and SSB HF in popularity.

The amateur experimenters of a century ago would be amazed at what amateurs can do today—and there's more to come! 73, [TC Ham News Publishers](#)



TREASURE COAST HAM NEWS

The editors like to reserve the last few pages of *Treasure Coast Ham News* for you, the readers. With your help these pages will include:

For Sale Section – Have something to sell or trade? Send us a description and/or picture to have it listed in this section. Looking to buy something? Provide a description and we will print it.

QSL Card Section – Many hams enjoy viewing QSL cards, especially those with colorful pictures. Send us scans of your favorite QSL cards. Maybe the first card you ever received. Or perhaps your favorite card, or your personal card. We will include some in each issue as space permits.

The last few newsletter pages are yours. Help make them a success by submitting your photos, For Sale listings and QSL cards to tchamnews@gmail.com.

Want to be published? Treasure Coast Ham News invites you to write about your ham radio activities, kit building, DX operations, or any other amateur radio subject. You don't need to be a polished writer, or a writer at all for that matter. We will help you edit your work. While we can't pay for articles, you will receive a full byline. Please contact us at: tchamnews@gmail.com.

Volunteer Examiner Updates



Local License Exam Contacts

Vero Beach ARC

Bud L. Holman
(772) 559-3342
budholman@earthlink.net

Ft. Pierce ARC

Jess Porter
w4dns@arrl.net

Port St. Lucie ARA

Robert Brown
(772) 201-5485
brownpsl@comcast.net

Send VE news to
tchamnews@gmail.com

If your club is testing, please let us know the location, date and examination results

Port Saint Lucie Amateur Radio Association Announces 2023 VE Exam Dates

It's official: The PSLARA VE team has confirmed their license exam session schedule for calendar year 2023.

Sessions will be held quarterly, beginning with the first session scheduled for February. The full schedule for 2023 is:

- February 11, 2023
- May 13, 2023
- August 12, 2023
- November 4, 2023

All sessions will be held at the Veterans Center of Excellence located on the Pruitt campus of Indian River State College, 500 NW California Blvd, in Saint Lucie West.

All exam sessions will start promptly at 10:00 AM. Walkups will be accepted at all sessions.

Additional sessions may be added throughout the year should there be sufficient demand.

Directions to the Veterans Resource Center

From St. Lucie West Blvd, head north on NW California Blvd for about 1-mile. The college will be on your left. Turn left into the campus using the second (north) entrance. Then make an immediate right turn into the parking lot. The Veterans Center will be directly in front of you. A map is available [here](#).

Current Question Pool for General Class Exam Expires June 30, 2023

If you are currently studying to earn the General Class license, you will want to take the exam by June 30, 2023.

The National Council of Volunteer Examiner Coordinators has released a new question pool that will become effective July 1 for the General Class exam.

Attn: VE Teams in Martin, Indian River and Okeechobee Counties

If your club has an exam session scheduled please let us know so we can publicize it on this page.

Also, remember to share your session results so we can salute your candidates on these pages. Send your information to tchamnews@gmail.com.

* * * * *

Last Month's License Exam Trivia Question

How did you do with this question from the Technician license question pool?

Which of the following frequency ranges are available for phone operation by Technician licensees?

- A. 28.050 MHz to 28.150 MHz
- B. 28.100 MHz to 28.300 MHz
- C. 28.300 MHz to 28.500 MHz
- D. 28.500 MHz to 28.600 MHz

The correct answer is C. (*This is question T1B01 from the Technician question pool.*)

January Trivia Question

Try your hand with this question from the new General license question pool.

What is the approximate maximum distance along the Earth's surface normally covered in one hop using the F2 region?

- A. 180 miles
- B. 1,200 miles
- C. 2,500 miles
- D. 12,000 miles

(*The answer will be revealed next month.*)

Ham Radio History: Trunk Lines

by Chris Codella, W2PA



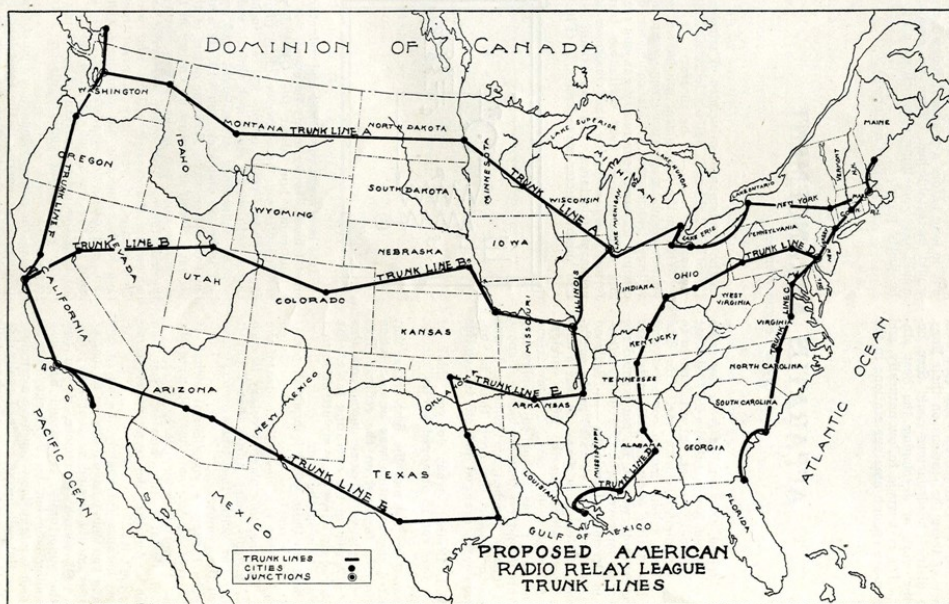
[Editor's note: The author, Chris Codella, W2PA, maintains a web site full of interesting stories about the development and evolution of radio communication. This is the thirteenth in a series of articles about the earliest days of radio history. The stories are reprinted here with permission of the author. Be sure to visit Ham Radio History for some fascinating reading.]

Clearly, Maxim's main goal was to establish reliable relaying across the entire country. He was excited by its collaborative nature. In the third and last free issue of *QST* he wrote, "The co-operation of a few unknown but nevertheless kindred spirits between Portland, Maine and Portland, Oregon, by means of which the message is handed on, adds a touch to the whole scheme and makes it almost Utopian."¹ It was the primary reason for organizing the League, whose membership had just reached 1,000 in late 1915. But a great idea alone did not lead to a practical system.

The first of the blueprint items, and the only one pertaining to operating procedure, advised stations across the country to routinely announce themselves QRU (i.e., ready to receive messages) and maintain a regular schedule.

Maxim next added the concept of running regular tests. Aside from exercising the system and its parts, he hoped the tests would serve to bring timid operators out of their shells and get them to announce

themselves. He believed there was a pervasive case of key fright among the members, similar to what we more recently recognize as a Novice's first-contact fear. But Maxim observed this condition even among some experienced operators. He considered it a serious obstacle to establishing a reliable system, writing, "... there are a great many amateurs who lack the nerve or whatever else it is to break in and send out a general QRU?" There is something akin to standing up before the crowd and making a speech, in sending a general call. Some people would rather take a thrashing than touch their key for the purpose. They feel that they cannot send well enough, or that they will become rattled or that something will happen in the form of a come back, which will disclose the awful fact that they cannot receive well.



These people never entirely get over this feeling, and many of them have station equipment which, in the hands of an operator with more nerve, could do wonders. For this reason, any plan which calls for initiative on the part of all sta-

tions in a voluntary organization such as the Relay League, is bound to be only partially effective.

He further proposed establishing a network of *trunk lines* across the country linking major cities, which would serve to channel messages across the country over paths known to be reliable. In the eastern part of the country a trunk line ran south along the New England coast (Trunk Line C) branching first at Boston out to Chicago (A) and again at Philadelphia out to New Orleans (D) before continuing on to the Carolinas and Florida.

(continued on page 5)

Ham Radio History: Trunk Lines

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In the western states, three lines beginning in Chicago (A), St. Louis (B) and Houston (E) extended west out to Seattle, San Francisco and Los Angeles, then were linked together along the west coast trunk line (F). Stations lying along these lines would collaborate in organizing themselves locally, with the best stations – Maxim dubbed them *Star Stations* — emerging over time through constant testing and reporting of results to ARRL headquarters via mail.

District headquarters would be established for each trunk line and would each be responsible for developing their own piece of the system. The League would thus be a national federation of local organizations—the beginnings of the nested, hierarchical structure that eventually became the National Traffic System.

Although the trunk lines were only a suggestion, amateurs apparently latched onto the specific design Maxim had published, judging from the letters he received.² Eager to establish the local headquarters for the lines and pass along responsibility for getting them organized, he suggested three to start with: in Chicago, San Francisco, and in the east either in Philadelphia or somewhere in New Jersey. These were chosen because they were population centers that lay either at junctions or along more than one trunk line.

One prerequisite was that each HQ should be chosen for their operator’s organizational skills. Another was that they would always meet their test message schedules, or get a substitute. Stations that failed to be on the air at the right time were the biggest impediment to amateur radio relaying. Therefore the lines should operate only one night per week rather than attempt it more often at the cost of decreased reliability. The exact time of operation was left up to the discretion of each trunk line, but Maxim suggested that it should be late enough to both eliminate QRM from the little boys and to be after the time when most movies ended at theaters.

But he also advocated operating at the same time all across the country in order to try to set new records—for example, to possibly complete a round-trip

Chicago to Maine relay and acknowledgement in 15 to 20 minutes.

Message and acknowledgement formats should contain the calls of all the relay stations so as to be able to constantly evaluate the system and detect dead ends. Finally, he asked again for help from the local amateur radio communities in figuring out who should be district HQs — ARRL HQ did not know enough about the individual stations to make that determination.



Emma Candler, 8NH

One woman stood out among the stations of the nascent relay network. Mrs. Emma Candler, 8NH (later 8ER) of Marysville, Ohio shared a station with her husband, Charles, but was by far the more active of the two,³ Trained and employed as a telegraph operator at the Marconi

Company, she quickly became a proficient wireless operator when she got on the air in 1915. Early in her amateur career, tired of being referred to on the air as “OM,” she one day told another amateur that she was, in fact, an “OW” and from then on was known as such to her friends. She became ARRL Central Division superintendent until after the war when a career teaching math kept her from resuming her League role.

□ □ □ □ □ de W2PA

Footnotes:

1. Hiram Percy Maxim, “Practical Relaying,” *QST*, February 1916, 19.
2. Hiram Percy Maxim, “Practical Relaying,” *QST*, March 1916, 45.
3. “Emma Candler, 8NH,” *Who’s Who in Amateur Wireless*, *QST*, October 1916, 303.

(Next issue: Cooperation and QRM - Sharing the air)

(Are you enjoying this series? Please let us know. Send your comments to tchamnews@gmail.com.)



HF & DX Group Notes

The most recent HF & DX Group breakfast get together was on December 9, 2022. A total of nine persons attended.

Everyone enjoyed a hearty breakfast while sharing stories about HF and DX activities. Logs were shared and favorite QSL cards were passed around for the group to admire. Upcoming DXpeditions and other HF opportunities were also discussed.

The conclusion was that everyone must have had a good time because the gathering went on for almost three hours.

So what are you waiting for? Whether new to HF or a seasoned DX operator - it doesn't matter. All are welcome. This is a casual group with no dues and no formal agenda. All you need do is show up.

January Meeting

Are you interested in HF? Do you want to learn more about DXing? If you answered **Yes** to either question, consider joining us at a future meeting. The group meets over breakfast on the second Friday of each month.

The next breakfast meeting will be held on Friday, January 13, 2023 at 9:00 AM at the Bob Evans restaurant, 1830 SW Fountainview Blvd, St. Lucie West.

Meetings are informal. Come enjoy a good meal and discuss DX and HF topics of interest. We talk about on-air activities, logs, upcoming DXpeditions and anything else of interest to HF operators and DXers.

Bring along your questions. Bring your logs. Bring your favorite QSL cards. And bring a friend.

(Note: You will be responsible for purchasing your own breakfast.)

Short Takes

Winding Toroids with a Crochet Hook

<https://www.youtube.com/watch?v=P-GUMANrUSA>

Winding a 1:4 Current Balun with 8 Turns

<https://www.youtube.com/watch?v=AJHfzeqaW5U>

Learn about Batteries

<https://batteryuniversity.com/>

[articles](#)

Disable Ad Tracking On All Your Devices: The complete guide with screenshots

<https://privacysavvy.com/security/safe-browsing/disable-ad-tracking/>

D.I.Y. Radio (UK-1990s)

<https://worldradiohistory.com/D-I-Y-Radio.htm>

Audio Service Manuals (includes some Heathkit radios)

<https://www.audioservicemanuals.com/>

Wire Antennas for Ham Radio

https://www.qsl.net/va3iul/Antenna/Wire%20Antennas%20for%20Ham%20Radio/Wire_antennas_for_ham_radio.htm

Email & Chat Groups

(Note: some groups may require registration.)

Digital Ham Radio Discussion Group
<https://digitalham-radio.groups.io/g/main>

Police, Fire, Rail, Aviation and More for Scanner Fans
<https://groups.io/g/Scanners>

See an interesting web site or group? Tell us about it. Send link to tchamnews@gmail.com

Russian Communication Failures in Ukraine

Russia has experienced many shortcomings in its war of aggression against Ukraine. Despite its seemingly overwhelming military capabilities, the Russian war machine has steadily been degraded by the much smaller, more agile and semi-equipped Ukrainian armed forces in part thanks to the USA, UK, NATO and other nations supporting Ukraine's military.

The Russians have seen significant troop losses with multitudes of tanks, planes and ships destroyed.



Much of the initial territory seized was taken back by the Ukrainians. The Russians continue with their aerial annihilation of Ukraine's infrastructure and citizens, but not without high costs including loss of life.

Despite the setbacks, Russia has considerable military assets including those obtained from 3rd world nation states such as Iran (drones) and North Korea (armaments). Russia's use of nuclear weapons to change the tide of the war is a possibility. However, their use would elevate the conflict to a place not even they may want to go.



A significant deterrent for the Russians is their inability to reliably communicate or keep their conversations secure on the battlefield or in occupied places. Even with advanced military communication capabilities, many units must employ non-encrypted Chinese radios or cellular phones taken from Ukrainian civilians.

The Ukrainians have exploited the Russian communications failure by listening in real time to troops talking over commercial cellular phones. The troops talk about their morale and discuss with family members in Russia incidents where troops are committing violence and murder against superior officers.

The Ukrainians have gained electronic warfare expertise thru their efforts. Advanced technical assistance from the US, UK and NATO may also have given them more knowledge of how to intercept and listen to Russian secured battlefield communications.

Another reason for Ukraine's success may be that as Russian communications have failed, they have resorted to old unsecured communication systems.



While the US, UK and NATO pride themselves on the ability to collect information about adversaries, they may have fallen short with respect to Russia. There is only just so much that can be discovered through technical means. The gathering of intelligence still requires physical access to equipment and human assets. Unfortunately, opportunities have not presented themselves with any regularity.



Ukraine is providing instances to gain physical to Russian communication systems. Ukrainian farmers

have become the recipients of Russian equipment abandoned by battlefield forces that chose to flee rather than fight. If the equipment found on the battlefield is salvageable, the Ukrainians soon press it into use. If not, it may be transported by rail to NATO or to the US for complete evaluation by intelligence agencies and military.

Inadequate training of Russian military forces may be another contributing factor for their communications failures. Troops that use military communications must have extensive training in communications security. Allowing Russian battlefield forces to have social media access has led to numerous security breaches. Using secure radios and employing digital discipline when deployed, can help units

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Russian Communications Failures in Ukraine

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remain invisible to electronic eavesdroppers.

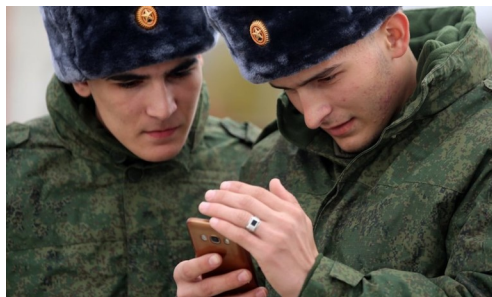
When Russian troops took Kharkiv they destroyed communication towers. While that may have seemed



appropriate to the troops, what they did not know was Russia's domestic security service, the FSB could not use their "Era" tele-

phone-encryption system. This system required a 3G or 4G data connection for secure communications.

To make matters worse, the FSB was forced to use regular cellular phones to advise Moscow superiors that the "Era" system wasn't working. Of course their cell phone con-



versations were intercepted. While the Russians may eventually resolve their communications woes, it may not be before their operational information is further compromised and exploited by the Ukrainians.

While intercepting Russian military communications can provide operational and situation information, the Ukrainians are using other methods. When the Russians seized citizen cellular phones, the owners of those phones reported their numbers. With the cell phone number known, the Ukrainians were able to transform those phones into intercept devices.

Private citizens also set up chat rooms to share Russian troop movements. These factors and others may have contributed to the Russians inability to achieve the success they want or need.

CW & Me - A Journey of Dits & Dahs

One night, not long ago, I headed to the shack for some late night hamming. My operating time lately has been mid-mornings with an occasional late afternoon. My [Solar Prognosticator](#) website said 20 meters and above had shut down, but 40 meters was promising. Operating late night might be exciting.

With the ICOM transceiver at the ready, I started tuning down from 7.300 MHz. and heard a number of SSB QSOs in progress. In the General class portion of the band a New Jersey ham was calling CQ over and over again, never taking a pause to listen for any responses. I wondered what was going on. Was he using a voice keyer and had walked away from his rig? Could be. Finally, I heard a pause in his CQs and was about to answer when he responded to a DX station I did not hear. Downward I went on my journey. 7.074 MHz was busy with FT8 operators. I contemplated firing up WSJT, but FT8 and I were on the outs. Fun initially, but a little boring of late. Again downward I went.

Nearing the bottom of the band, I entered the realm of Morse code and things began to change. I copied Europe, Africa, the Middle East and beyond until their night turned into day.

* * * * *

Many new hams, even with marginal CW skills, never venture into the lower portions of the individual bands. Why is that?

Learning CW is not too hard. Practice several times a day for 20 to 30 minutes and soon your copying speed will approach 13 WPM. While there are speed demons who want to show off, copying and sending at 13 to 15 WPM is plenty fast enough to make QSOs. For sending, many hams use a keyer and paddle. Others use a straight key or even a keyboard.

In the next few TCHN issues we will talk about learning CW, Prosigns, Q codes, etc. We will explore the tools of the trade. For those who can't be CW sufficient, we will talk about software and devices that can help you with your dits and dahs journey and share your experiences.

Come along, it will be fun.

Bruce, W8HW's: Is it Myth or Fact?

[There is a lot of misinformation about antenna tuners. To set the record straight, Bruce, W8HW gives you the low down on tuners, what they are and are not.]

TUNERS ONLY FOOL YOUR ANTENNA

The ARRL Technical Columnist, David Casler, debunks this as myth 2:05 minutes in his video <https://www.youtube.com/watch?v=Tc4KodE7Gfo>.

Tuners have more than one job. In Dave's video, he starts to answer an unrelated question, but two minutes into his video, he gets into tuners other job and how they return the reflected power back to the antenna. He explains that reflected power arriving at the tuner is then re-routed back to the antenna to be radiated. Many books have been written on reflected and re-reflected power. There is a lot more to be said on the topic, but his video is a great start. Nice video Dave and congratulations on your new QST column "Ask Dave."

Tuners do a lot more than allow your transmitter to give full power output by providing a good looking match to your transmitter. That is just the beginning. Tuners have four (4) jobs that they do for us. To support what Dave tells us, we will discuss the many benefits a tuner provides for us. Referring to an antenna tuner as a "transmitter fooler" is just wrong. That statement violates basic physics, specifically the laws of thermodynamics.

Dave Casler explains in his videos and articles that while an antenna system with high SWR does reflect power back toward the transmitter, a tuner (properly tuned) re-reflects that same power back to the antenna. That is one of the four jobs a tuner does for you.

The simple "Foolery" belief (myth) violates one of the laws of Thermodynamics (Conservation of Energy) <https://byjus.com/physics/law-of-conservation-of-energy/>. Additionally that myth fails to understand the 4 jobs that a tuner does for you. Example: some of my antennas I run as much as 12.5 to 1 SWR. Many times I run a full 1,500 watts. If my tuner did not return the reflected power (re-reflect) back to

the antenna to be radiated, it would look like the 4th of July in my shack. Additionally the myth fails to understand that resonate circuits do in fact return power (Job #2). With a tuner, the resonant circuit now becomes three parts, antenna - feed line - tuner. Not just the antenna alone.

It would be fire and sparks like the 4th of July in my shack if not for the fact that my tuner does return the high reflected power back to the antenna to be radiated. That is because something must happen with the (700w plus) reflected power. Additionally, the myth fails to understand that the job of a resonant circuit is to return power. That is what they do. Remember that a tuner, (Job 2) resonant circuit now becomes three parts, (antenna - feed line - tuner). That is how power is returned (re-reflected) back to the antenna.

Protecting yourself from myths is difficult, but it can be done. Identifying wrong information is easy if you remember the difference between a myth and a scientific fact is that the myth cannot be explained with math and scientific laws. That is why they are myths. Ask them to explain the math. If they don't know the math, then they don't fully understand the issue. Incomplete understandings are how myths are generated. This also helps explain the speed with which myths travel.

Case in point: It only takes around fifteen (15) watts to melt solder. Does the solder in your shack melt because of SWR? The point of this is that reflected power can only do one of two things. It can either be returned to your antenna (by the tuner) to be radiated, or it becomes heat and will melt solder joints and create fire and noise in your shack.

Power cannot just disappear. According to the laws of Thermodynamics (Conservation of Energy) 100% of the power transmitted must be accounted for. This renders the foolery myth as impossible. Dave's video properly accounts for the re-returned power.

More fun also happens when he/she tries to tell you that an antenna has to be resonating. Some of the most efficient antennas are NON-resonant.

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More on this later.

Low SWR does not mean high efficiency. Dummy loads cause the lowest SWR of any antenna and yet are the least efficient antenna of all. Almost 100% of transmitted power is converted into heat and almost 0% is radiated. This proves that SWR meters provide NO indication of antenna efficiency. Antenna efficiency mostly comes from (but is not limited to) higher antenna radiation resistance (large topic for another day).

FYI: Antennas do NOT have VSWR (aka SWR). Only a feed line can have SWR. If someone who tries to tell you that his/her antenna has SWR, they have just made it clear that they do not understand the subject. Your best bet is to just change the subject.

Use caution as SWR does increase the loss in coax. Because power (mathematically) gets returned back and forth to the antenna, the loss in coax increases with additional trips. ARRL and many others provide great charts to calculate that. However this loss too can be overcome. This loss can be reduced almost to zero even with high SWR, easily as high as 20 to 1 or more.

This is done by raising the feedline impedance to 400 - 600 ohms (See figure 1). Twin lead feedline makes this easy. Note that 600 ohm feedline has better efficiency (88%) at 20 to 1 SWR than RG-8 has at a 1 to 1 SWR match (87%). Full explanations of this complicated issue are a slightly longer topic for another day. I have done long talks and demonstrations on this very topic. (For more information see https://www.qsl.net/co8tw/Coax_Calculator.htm.)

Figure 1: Comparing 50 ohm to 600 ohm feedline loss for 100 feet of feedline at 10 MHz.

SWR	1-1	3-1	5-1	10-1	20-1
RG-8	87%	82%	75%	60%	44%
600 ohm	98.6%	97%	96%	93%	88%

To be clear, Impedances must be matched and circuits must be tuned to resonance for this to work. In the case of a non-resonant antenna, the “tuned circuit” becomes (antenna - feed line - tuner). Your

tuner does both of those two jobs (1 & 2). Just for information sake, the two remaining two jobs are... **3**: BPF (Band Pass Filter), and **4**: If so equipped, tuners have an inverted Balun to change your transmitters output from un-balanced to balanced output.


Non-Resonant antennas have been used successfully by broadcasting stations as well as hams for years. Broadcast stations use high power and range means money. This demonstrates the reason why people should test theories before calling them facts. It is unfortunate that myths travel faster than facts. Tuners work and do all four jobs well if used properly.

The most important addition to your shack could very well be a high quality tuner.


73, Bruce - W8HW

⇨ Don't buy it... Build it... Learn how it works... TCNL will help ⇩

Talking to the world HF - No relay systems - Transmitting direct antenna to antenna



73
Bruce
W8HW



Feedline Impedance Matchers

As Bruce, W8HW, has clearly explained, ham radio antenna tuners do not tune your antenna. Rather their sole purpose is to transform your feedline's impedance. PI-network, L-network, and T-network are the most common types of feedline impedance matchers.

PI-networks were used in tube (valve) transmitters. Tube type linear amplifiers also use a PI-network. PI-networks have two variable capacitors and a coil. Resonance may be found from multiple capacitor and coil settings. PI networks are broad-banded and can match a wide variety of feedline impedances.

L-networks are used in feedline impedance matchers. An L-network is an unbalanced feedline matcher. It is typically used for matching 50 ohm coax feedlines. Sometimes L-network tuners are implemented for coax to ladder/window line transmission lines.

T-networks are used in the majority of commercially produced antenna tuners. T-networks are unbalanced feedline matchers. They can adequately match wide impedances on the antenna feedline side to a 50 ohm coax exciter load. T-networks typically use a roller inductor or a coil with taps controlled by a rotary switch.

Upcoming Hamfests

FLORIDA

01/14/2022

TarcFest

Location: Tampa, FL

Sponsor: Tampa ARC

Website: www.hamclub.org

01/20/2023 - 01/21/2023

SW Florida Regional Hamfest

Location: Fort Myers, FL

Type: ARRL Convention

Sponsor: Fort Myers ARC

Website: <https://swflhamfest.info>

01/28/2023

DeSoto County Hamfest

Location: Arcadia, FL

Sponsor: DeSoto Amateur Radio Club, Inc.

Website: <http://desotoarc.org>

Hamfests offer exhibits, forums and flea markets for Amateur Radio operators or "hams."

ORLANDO HAMCATION - February 10-12, 2023

Location: Central Florida Fairgrounds & Expo Park, 4603 West Colonial Dr. Orlando, Florida 32808. [GET DIRECTIONS](#)

Dates/Times: February 10 - 11, 2023, 9AM to 5PM. February 12, 2023, 9AM to 1PM.

Ticket Info: Purchase tickets online or via mail. Parking at HamCation is FREE! Tickets are available online, via mail, or at the event on the days of the event.

GET TICKETS

Talk-In: Talk-in 146.760 (-600/ PL 103.5) KB4UT repeater. The repeater is a mix mode System Fusion repeater in downtown Orlando. It has good coverage throughout the central Florida region. Backup talk-in will be on the 443.050 (+5.00 PL 103.5) repeater. DSTAR: K1XC 146.820 - .600

On The Air: Making Contacts During The Event

Every year we operate from HamCation as special event station KIAA during show hours: Friday 9:00 a.m. - 5:00 p.m. EDT, Saturday 9:00 a.m. - 5:00 p.m. EDT and Sunday 9:00 a.m. - 1:00 p.m. EDT. We welcome you to operate with us. Please be sure to have a copy of your license available. If you do not have a copy and still wish to operate the special event station, contact the station operator and we'll try to do our best to accommodate you.

<https://www.hamcation.com>



Amateur Radio Emergency Service® (ARES)

ARES members are licensed amateurs who volunteer with local emergency management for communications duty when disaster strikes. All licensed amateurs are eligible for membership in ARES.

St. Lucie County ARES is planning to sponsor a **Winter Field Day** event on SATURDAY JANUARY 28, 2023.

This event will take place at the Rock Road tower site located at 101 N Rock Rd, Fort Pierce, FL. This is just off Orange Avenue west of I-95.

Winter Field Day is a communications exercise. WFD can be worked from the comfort of your home or from a remote location. You can participate by yourself or get your friends, family, or whole club involved. Winter Field Day is open to participants worldwide.

Amateur radio operators may use frequencies on the HF, VHF, or UHF bands and are free to use any mode that can faithfully transmit the required exchange intact. Similar to the ARRL's Field Day, bonus points are earned in several ways, including using non-commercial power sources, operating from remote locations, satellite contacts, and more.

For more information about Winter Field Day click [here](#).

Alert us to your future ARES events: tchamnews@gmail.com

ARES Emergency Coordinators (EC)

Indian River County
[Bud Holman, WA4ASJ](#)

Martin County
[Brian H. Gibson, KN4YWW](#)

St Lucie County
[Paul Horner, W4ISZ](#)

Okeechobee County
[Jack Schwartz, KM4CRA](#)

Get involved. Volunteer to be a part of your county ARES team.

Welcome to the Treasure Coast Ham News Monthly Meetings, Nets, and Events Calendar

If you know of an event, net, or meeting that would be of interest to our Treasure Coast Hams, please let us know. As with anything new, you can help us make the calendar better. Send your event announcements and any changes to tchamnews@gmail.com.

January 2023

December							February						
Sun	Mon	Tues	Wed	Thur	Fri	Sat	Sun	Mon	Tues	Wed	Thur	Fri	Sat
1	2	3	4	5						1	2	3	
6	7	8	9	10	11	12	4	5	6	7	8	9	10
13	14	15	16	17	18	19	11	12	13	14	15	16	17
20	21	22	23	24	25	26	18	19	20	21	22	23	24
27	28	29	30				25	26	27	28	29	30	31

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5 PSLARA R/T Net-7:30pm 146.995(-) (107.2)	6	7
8 TC R/T Net-8pm 146.775(-) (107.2) SKYWARN Net-9pm 146.775(-) (107.2)	9 PSLARA Board Mtg (via Zoom) IRC Emer. Net-8pm 146.640(-) (107.2) MCARA R/T Net-8pm 145.150(-) (107.2) OARC Club Net-8pm 147.195(-) (100.0)	10 IRC ARES Net-7:30pm 145.130(-) (107.2) FPARC R/T Net-8pm 147.345(+) (107.2) D-Star Net-8:30pm 444.500(+5) Port B OARC ARES Net-8pm 147.195(-) (100.0)	11 SLC ARES WinLink Wednesday's	12 PSLARA R/T Net-7:30pm 146.995(-) (107.2) VBARC Mtg-7:30pm Indian River Co. EOC 4225 43rd Av, Vero Bch	13	14 TARFEST Tampa ARC www.hamclub.org
15 TC R/T Net-8pm 146.775(-) (107.2) SKYWARN Net-9pm 146.775(-) (107.2)	16 IRC Emer. Net-8pm 146.640(-) (107.2) MCARA R/T Net-8pm 145.150(-) (107.2) OARC Club Net-8pm 147.195(-) (100.0)	17 IRC ARES Net-7:30pm 145.130(-) (107.2) FPARC R/T Net-8pm 147.345(+) (107.2) D-Star Net-8:30pm 444.500(+5) Port B	18 FPARC Mtg-7:30pm Indian Rive State College Bldg R, Rm 124 3209 Virginia Av, Ft Pierce	19 PSLARA R/T Net-7:30pm 146.995(-) (107.2) MCARA Mtg-7pm 802 SE Monterey, Stuart	20 SW Florida Regional Hamfest Fort Myers ARC https://swflhamfest.info	21 SW Florida Regional Hamfest Fort Myers ARC https://swflhamfest.info
22 TC R/T Net-8pm 146.775(-) (107.2) SKYWARN Net-9pm 146.775(-) (107.2)	23 IRC Emer. Net-8pm 146.640(-) (107.2) MCARA R/T Net-8pm 145.150(-) (107.2) OARC Club Net-8pm 147.195(-) (100.0)	24 IRC ARES Meeting 145.130(-) (107.2) FPARC R/T Net-8pm 147.345(+) (107.2) D-Star Net-8:30pm 444.500(+5) Port B	25 SLC ARES WinLink Wednesday's PSLARA Mtg-7pm IRSC - Pruitt Campus Veteran's Resource Ctr. 500 California Blvd	26 Indian River Co. ARES 7pm - Indian River EOC 4255 43rd Av Vero Bch PSLARA R/T Net-7:30pm 146.995(-) (107.2)	27	28 WINTER FIELD DAY St Lucie County ARES Rock Rd, Ft Pierce Desoto Co. Hamfest Desoto Co. ARC Arcadia, FL
29	30 IRC Emer. Net-8pm 146.640(-) (107.2) MCARA R/T Net-8pm 147.060(-) (107.2) OARC Club Net-8pm 147.195(-) (100.0)	31 IRC ARES Net-7:30pm 145.130(-) (107.2) FPARC R/T Net-8pm 147.345(+) (107.2) D-Star Net-8:30pm 444.500(+5) Port B	1	2	3	4
5	6	TC: Treasure Coast IRC: Indian River County SLC: St. Lucie County PSLARA: Port St. Lucie Amateur Radio Association (www.pslara.org) FPARC: Ft. Pierce Amateur Radio Club (https://fparc.org/) MCARA: Martin County Amateur Radio Association (https://mcaraweb.com/) OARC: Okeechobee County Amateur Radio Club VBARC: Vero Beach Amateur Radio Club (http://www.w4ot.com/)			R/T: Ragchew/Traders Emer.: Emergency	

Treasure Coast Ham Doctors

A Look Back



With 2022 winding down and a new year about to begin, I found myself reminiscing a bit about past accomplishments.

With the urging and help of the co-publisher of *Treasure Coast Ham News* I've been writing this column for three years now. The focus of most columns has been on operating the FT8 digital mode, with much of the content driven by questions from other hams, which I have always attempted to answer to the best of my ability.

This month, instead of a question and answer format I will reminisce a bit and share some background on my personal experience getting started in ham radio and in particular how I got started operating FT8.

In the beginning... I earned my Technician ticket in 2010 and quickly upgraded to General and then Extra. That was all great, but I was still employed full time and traveling a lot on business, which left very little time to pursue hobbies and other avocations. Besides, the only radio I owned at that time was an SDR receiver with which I was able to listen to the world. Eventually I would purchase a Kenwood dual band HT.

My foray into HF only started after retirement when I was gifted an old iCom transceiver from the estate of a dear friend who had become SK.

I did nothing with the iCom until my co-publisher friend gave me a spare 17-meter Hamstick antenna he had stowed in his garage.

When I mag-mounted the Hamstick antenna to the roof of my car and connected it to the iCom, Wow - did it ever come to life! Tuning both amateur and shortwave HF bands I was able to clearly copy stations from around the world.

Now I was ready to get on the air. But what was the best way to do it? The iCom rig was old and the Hamstick antenna was minimal, so I decided to find a way to operate using low power so as to put the least amount of stress on my equipment.

That's how I settled on FT8 and WSJT-X software. With the purchase of a Signalink TNC I was able to successfully operate FT8 and similar modes utilizing 20 watts or less of RF output.

You may be wondering how I am doing with such low power and a minimal station. My answer is quite well indeed. I've worked all 50 states on 17-meters and have 49 states on two other bands. I also have over 120 confirmed DXCC entities in LoTW.

My goal for 2023 is to score Worked All States on addition bands and achieve DXCC on two or more individual bands.

Conclusion - You don't need a big station to enjoy amateur radio.

73, and Happy New Year to all, [The Doctors](#)

REP. LAKSO INTRODUCES BILL TO REPLACE RATE LIMIT

Congresswoman Debbie Lesko (AZ-08) has introduced a bill in the U.S. House of Representatives (H.R. 9664) requiring the FCC to replace the current HF digital symbol rate limit with a 2.8 kHz bandwidth.

After being petitioned by ARRL in 2013 (RM-11708) for the same relief, in 2016 the FCC issued a Notice of Proposed Rulemaking (WT Docket No. 16-239) where it agreed that the HF symbol rate limit was outmoded, served no purpose, and hampered experimentation. The FCC also questioned whether any bandwidth limit was needed in its place. Most amateurs, including the ARRL, objected to there being no signal bandwidth limit

in the crowded HF bands given the possibility that unreasonably wide bandwidth digital protocols may be developed. Since 2016 there has been no further FCC action.

In introducing the legislation, Congresswoman Lesko said "With advances in modern technology, increased amounts of data can be put on the spectrum, so there is less of a need for a regulatory limit on symbol rates. I am pleased to introduce this important piece of legislation to update the FCC's rules to support the critical role amateur radio operators play and better reflect the capabilities of our modern radio technology.

From the ARRL Letter



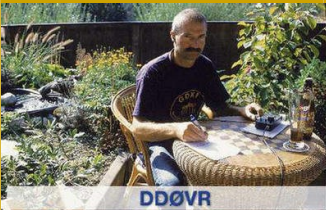
الجمعية السالطانية للهواة الراديو
The Royal Omani Amateur Radio Society



Norfolk Island Grid Locator: RG30XX ITU Zone: 60 IOTA: OC-005



50th Anniversary of the Alfred Pearce Station creation
Alfred Pearce Station, Possession Island, CROZET District



DD0VR

From the weekly **ARRL DX Bulletin** and other sources. ([DX bulletin archives](#))

DX OPPORTUNITIES

OMAN, A4. Members of the Royal Omani Amateur Radio Society are QRV with special call sign A450RS to celebrate the Society's 50th anniversary. QSL via EC6DX.

CAPE VERDE, D4. Harald, DF2WO will be QRV as D44TWO from January 3 to 21, 2023. Activity will be on 160 to 6 meters using CW, SSB, FT8, and FT4, as well as on Satellite QO-100. QSL via M0OXO.

NORTH COOK ISLANDS, E5. Warwick, E51WL will be back on Penrhyn Atoll, IOTA OC-082, after January 1, 2023 and expects to be active shortly afterwards. This may include being active on 6 meters. QSL via operator's instructions.

CROZET ISLAND, FT/W. Station FT8WW is QRV and expects to be here until March 2023. QSL via OQRS.

FRENCH GUIANA, FY. Pierre-Jean, F4GPK is QRV as FY/F4GPK from Kourou until January 8, 2023. QSL direct to home call.

OGASAWARA ISLANDS, JDI. Harry, JG7PSJ is QRV as JDI1BMH from Chichijima Island, IOTA AS-031, until January 2, 2023. Activity is on 40 to 10 meters using CW, SSB, and RTTY. QSL direct to home call.

BONAIRE, PJ4. Heli, DD0VR and Bigi, DE3BWR will be QRV as PJ4/DD0VR from January 1 to 13, 2023. QSL via DD0VR.

GABON, TR. Roland, F8EN is QRV as TR8CR from Libreville until March 15, 2023. Activity is on 30 to 10 meters using CW. QSL via F6AJA.

ANTARCTICA. A group of operators are QRV as RIIANC from Vostok Station, IOTA AN-016, until March 2024, and as RI30ANT from January 1 to March 31,

2023. Activity is in their spare time on various bands using CW, SSB, and various digital modes. QSL RIIANC via RN1ON, and RI30ANT via RZ3EC.

NORFOLK ISLAND, VK9N. Marcelo, ZLIMTO is QRV as VK9MTO until January 5, 2023. Activity is holiday style on 20, 15, and 10 meters using SSB, FT8, and FT4, generally between 0600 to 1100z. QSL to home call.

MONTSERRAT, VP2M. Thaire, W2APF will be QRV as VP2MDX from January 2 to 31, 2023. QSL to home call.

INDIA, VU. Members of the West Bengal Radio Club will be QRV as AT2WBRC from Sagar Island, IOTA AS-153, from January 5 to 17, 2023. QSL via VU2JFA.

CAYMAN ISLANDS, ZF. Edmondo, VA3ITA is QRV as ZF2IT from Grand Cayman, IOTA NA-016, until January 5, 2023. Activity is holiday style on 40 to 10 meters using SSB and various digital modes. QSL via LoTW.

DX SPECIAL EVENT STATIONS

HAITI, HH. Members of the Radio Club d'Haiti will be QRV as HH75RCH from January 1 to May 1, 2023 to celebrate the club's 75th anniversary. QSL via N2OO.

POLAND, SP. Special event stations SP90ENIGMA and SP90ENG are QRV until January 15, 2023 to commemorate the 90th anniversary since Polish cryptologists first broke the Enigma cipher. QSL via SP3PGR and SP3PDO respectively.

EUROPEAN RUSSIA, UA. Special call signs R2023NY and UE23NY are QRV until January 8, 2023 for the annual Russian New Year radio marathon organized by the Miller DX Club. QSL via RQ7L.

(Know of an upcoming DX station or Special Event? Send info to: tchamnews@gmail.com)



**17th Annual
Straight Key Month
Jan 2-Jan 31
0000Z-2359Z, K3Y**

SKCC - Straight Key Century Club. 3.550, 7.055, 14.050, 21.050.

Certificate & QSL: SKCC c/o Ted Rachwal, K8AQM, 6237 Twin Lakes Dr, Smiths Creek, MI 48074. K3Y/0 thru 9 plus KH6, KL7, KP4 and DX member stations in six WAC areas operating straight key, bug and cootie keys. QSL card confirms one QSO per area, up to 19 for all-area sweep. See URL for op schedule / map, stats, etc.

<https://www.skccgroup.com/k3y>

(From ARRL, other sources & the internet)

**American Revolution
Battle of Princeton**

Jan 1- Jan 8, 0000Z-2359Z, W2P, Delaware Valley RA. 14.250. Certificate & QSL: DVRA, PO Box 7024, West Trenton, NJ 08628-0024. Cert. of Commission in the Continental Army Signal Corps available. www.w2zq.com

**W8MRM Motor City RC
90th Anniversary**

Jan 7, 1700Z-2100Z, W8MRM, Motor City Radio Club. 7.190, 14.290. Certificate: Motor City Radio Club, P.O. BOX 1337, Southgate, MI 48195. www.w8mrm.net

122st Anniversary Lucas Gusher

Jan 7-Jan 8, 1500Z-2000Z, K5S, Beaumont ARC. 7.245, 14.245, 10.136, 14.030. Certificate & QSL: Greg Pritchett, 4839 Hwy 326N, Kountze, TX 77625. k5s.lucasgusher@gmail.com or w5rin.com

**Commemorating Last MIG Shoot
down VietNam war by Midway F-4**

Jan 14, 1700Z-2359Z, NI6IW, USS Midway Museum Ship. 14.320, 7.250, 14.070. PSK31 DSTAR on Papa system repeaters. QSL: USS Midway Museum Ship, COMEDTRA, 910 N Harbor Drive, San Diego, CA 92101. www.qrz.com/db/ni6iw

100th Anniversary Door Co. ARC

Jan 15-Jan 31, 1300Z-0300Z, W9DOR*, Door Co. ARC. All HF bands & modes. Certificate: Jef Fox - KC9GBX, 5073 Bluff Court Terrace, Sturgeon Bay, WI 54235 & TMI00DOR in Bertrichamps, France. kc9gbx@aol.com or www.w9dor.org

**Western Mass Council Scouts BSA
WHOA Saturday**

Jan 21, 1400Z-2000Z, WIW, Western Mass Council Scouts BSA. 7.190, 10.115, 14.060, 14.290. QSL: Tom Barker, 329 Faraway Road, Whitefield, NH 03598. Monthly outdoor skills and activity weekend open to scouts & the general public. QSLvia eqsl and SASE.

QuartzFest Distance Challenge

Jan 22-Jan 28, 1500Z-2159Z, W7Q, Northern Arizona DX Assn. 14.266, 7.266, 21.266, 28.266. QSL Tom Luther, 7690 W Derry Dr, Kirkland, AZ 86332. "The 4th Annual Distance Challenge(DC) held at Quartzfest(QF). The event conducted for 3 days during weeklong QF campout. Any licensed attendee can enter to make the longest distance contact in the Sonoran Desert, using HF radios & antennas brought to the QF site. If you don't bring radio you can enter by using radio available at QF special event station W7Q. Enter one of 4 categories including, (1) SSB/CW-100 watts max, (2) FT-8, (3) QRP -5 watts or less, & (4) W7Q station, most modes available. Will have prizes for each of 4 category winners & 4 runners up. Bring your best antenna - any kind. No remote. We provide a unique trophy hat for the 4 category winners. KG7OH@arrl.net or NADXA.com.

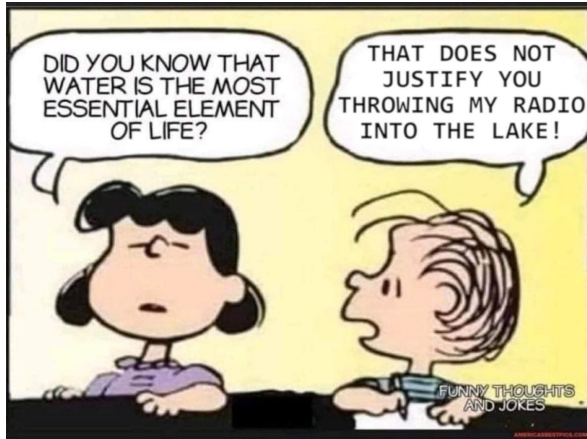
169th Anniversary Gadsden Purchase (DM3I) Organ Pipe National Monument and Winter Field Day

Jan 27-Jan 30, 2000Z-1400Z, KT7RC, Tucson, AZ. Tortolita Radio Club. 14.230; CW, SSB; FT8 on the WARC bands and 6 meters. Certificate & Email. Contact@-tortolita-rc.com for certificate. No paper QSL. Operating from the fairly rare DM3I Grid Square! DM3I occupies the southern border with Mexico that the Gadsden purchase set. www.qrz.com/db/kt7rc or tortolita-rc.com.

California Discovery of Gold

Jan 28-Jan 30, 1700Z-0100Z, AG6AU, Coloma, CA. El Dorado County ARC. 7.248, 14.248, 21.348, 28.348. QSL: El Dorado County ARC, P.O. Box 451, Placerville, CA 95667. edcarc.net.

Check the bands for other Special Events and enjoy the fun.



SOME WACKY WARNINGS

- Caution – Risk of Fire
 - on a fireplace log
- Not to be used as protection from a tornado
 - on a blanket from Taiwan
- Instructions – open packet, eat nuts
 - on an American Airlines packet of nuts
- Caution: Remove infant before folding for storage
 - on a portable stroller

(from www.rfcafe.com)

You're asking, "Where are the cartoons by Dick Sylvan, W9CBT?" Well don't fret. They will be back in future issues of the newsletter. It's just that we've run out of Dick's color sketches and are waiting to receive more. Meanwhile, if you enjoy Dick's "amateurish" sense of humor, you can order his book, "**Hi Hi - A Collection of Ham Radio Cartoons**" from Lulu.com. [Click here for a link to Dick's book.](#)

About TCHN - Who / What We Are (and are not)

Treasure Coast Ham News (TCHN) and the future Treasure Coast Hams website (TCHW) are published for the enjoyment of amateur radio operators and those interested in amateur radio. The publishers do not receive any pecuniary interests from TCHN and TCHW. TCHN and TCHW include original publisher, subscriber and author content, plus information obtained from publically available sources, including web pages. Content is attributed whenever possible or applicable. Content is believed to be accurate and timely, but the publishers assume no liability for any inaccuracies.

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[The Publishers](#)

Area Club News

Martin County Amateur Radio Association

MCARA serves the Martin County, FL amateur radio community and ARES. MCARA holds weekly Rag Chew nets, ARES nets and in-person / ZOOM meetings. Please click the ZOOM link on their [web site](#).

MCARA sponsors the annual Stuart Hamfest. This year's Hamfest is scheduled for March 18, 2023 at the Martin County Fairgrounds? More information is available on the MCARA [web site](#).

Fort Pierce Amateur Radio Club

The club's officers are: President - David, KG4ORQ, Vice-President - Kevin, W4KKW, Secretary - Pete, KD4SPW, and Treasurer - Kurt, W4KFH.

FPARC is a general purpose amateur radio club with a digital emphasis. The club meets on the 2nd Wednesday of the month on the Main Campus of Indian River State College in Fort Pierce. Watch for email announcements concerning upcoming meetings and events. Additional information is available on the club's [web site](#).

Port St. Lucie Amateur Radio Association

The club officers for 2023 are: President - Bob, AI4RB; Vice President - Scott, AI4TT; Secretary - Bruce, WA3RHW; Treasurer - Bob, W4RJP. Jody - W4SLD, Derek - KO4DAD, Greg - KB4VVE, Steve, N4SGL and Paul - W4ISZ were elected to serve as directors.

The club held an informal meeting and aturday afternoon social on December 10th. In attendance were 30 club members, XYLs and visitors. Light refreshments were served and several door prizes were awarded in a random drawing. Everyone had a good time.

The next PSLARA meeting is scheduled for Wednesday, January 25, 2023 at 7:00 PM. Meeting location is the IRSC Veterans Resource Center, 500 NW California Blvd. Watch for meeting information and updates on the [PSLARA](#) website as we get closer to the meeting date. Come out to the meetings and support the club. And bring a friend. Visitors are always welcome at PSLARA.

Vero Beach Amateur Radio Club

VBARC was formed in November, 1961 with a small number of local hams. Today the club has over 100 members and encompasses all of Indian River County. Visit their [web site](#) to learn more about the club. Join them on the Treasure Coast Net, 7.153Mhz every morning at 8:00am.

If you are into QRP, VBARC has operating events for you. See the club web site for details.

Okeechobee Amateur Radio Club

The club officers are: President/Treasurer - Mark, KF4EA; Vice President - Jack, KM4CRA; Secretary - Josh, K4JHI.

The Okeechobee Amateur Radio Club (OARC) is a general purpose amateur radio club. The club has been in existence over 30 years. For more information please contact [Jack, KM4CRA](#). Club website: www.k4oke.com

OARC nets include: Club - Monday nights at 8.00pm on 147.195, pl.100.0. ARES - Second Tuesday of each month at 8.00pm on 147.195, pl 100.0.

Repeaters and Club Nets

Our area has a multitude of repeaters. Many clubs hold weekly rag chew nets. All known net schedules can be found on the TCHN calendar in this newsletter. Please get on the air and participate!

(Attention club officers: Please send an email announcing upcoming events and activities to: tchamnews@gmail.com. Send by the 20th of the month to be included in the next issue.)

EQUIPMENT BUY / SELL

FOR SALE - contact Bruce at: wa3rhw@yahoo.com

Astron RS-20A 20 amp power supply. Very good to excellent condition. Very clean. \$65.00

Elecraft P3 Panadapter. Very good to excellent condition. Very clean. Manual and cables. \$600.00

LOOKING TO BUY - Robert, KI6MXT is looking for a recharging cradle for a Yaesu FT-60R. If you have one for sale, please contact Robert at 321-370-5417.

FOR SALE - Rob, KQ4DXK has an MFJ-269 antenna analyzer in like-new condition for sale. It was recently checked over and calibrated by MFJ, and has 10 brand new lithium rechargeable batteries. Asking \$250.00.

Rob also has an ARRL Extra Class License Manual, 12th edition for sale for \$25.00.

Contact Rob at rcook@tekrite.net.

HELP NEEDED - in installing a discrete screwdriver vertical in my backyard with underground coax at my residence.

Contact Gus, NU4L, 772-263-0430; email gberges@me.com.

Please advise if there is any cost and payment method. Thank you very much. Gus, NU4L.

Do you have something to sell or trade? Or perhaps you need help with an antenna or equipment problem?

Drop us a line and we will include it our next issue.

Send your email to: tchamnews@gmail.com

TCHamNews enjoys showcasing QSL cards received by our local amateur radio community. If you have an interesting QSL card to share with your fellow hams, please send a scanned image (jpeg) to TCHamNews@gmail.com and we will include it in an upcoming issue. (If you send us a paper card, we will scan it and send the original back to you.)

K7JA **KL7MF**

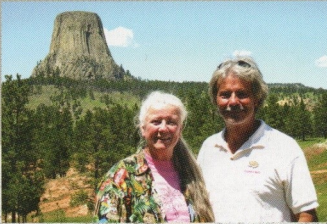
Chip & Janet Margelli
6652 Cerulean Avenue
Garden Grove, CA 92845
USA

CONFIRMING QSO WITH

RADIO	DATE	UTC	MHz	MODE	RST
W4RJP	24 NOV 2022	1955	28	SSB	57
HOPE YOU HAD A GREAT THANKSGIVING!					

CQ Zone 3 ITU Zone 6 Grid DM03xs **73, Chip**

XCVR TS-59056 ANT 3-EL YAGI 30'



KL7TC

Bill Hunstein
P.O. Box 10647
Fairbanks, Alaska 99710
Fairbanks North Star Borough
U.S.A.



To: AI4RB Confirming 2-way MFSK(FT4) QSO, Band: 17M KL7RA
Date: May 15, 2022 Time: 22:54Z, RST: -0895 Grid: BP64ev
FT4 Sent: -08 Rcvd: -05

Season's greetings!



OH9XMAS

Porto Santo
Madeira Island
CQ 33 - ITU 36 - IM13TB



CT3MD

HA7TM



HA7TM

HUNGARIAN RADIO AMATEUR STATION

If you are considering QSL cards or need to refresh your old card, please discuss with Fabrice at [QSL Concept](mailto:info@qslconcept.com). Email: info@qslconcept.com, or Fabrice directly at fabertron@bftechnicarts.com. Phone 604-729-6454.



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