



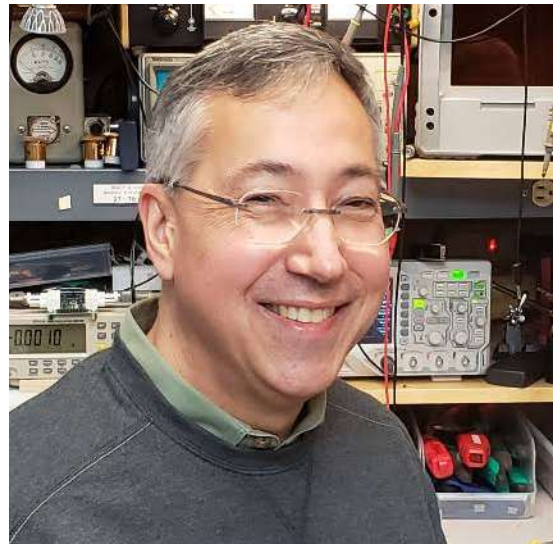
The DX-Tra

A Newsletter of the South Florida DX Association
Sept - Oct 2026

President – Jeff, WB3ISP Vice President – Al, KJ3Q
Secretary – Rich, WB4EHG Treasurer – Gil, W1RG
Directors: Randy, N4QV; John, K2SHA; Bill, W2CQ; Mark, K2AU
Webmaster, Newsletter Editor and Prize Chairman – Howard, W6HDG
Website: <https://www.sfdxa.com> Repeater 147.330 (+600) PL 103.5

Highlights from our September 2, 2026 SFDXA Meeting

Our meeting was very well attended. The business portion of the meeting included discussions about the repeater antenna needing to be replaced due to a lightning strike, the new online membership system and an update on our K4FK Remote Station. Our guest speaker was George Zafiropoulos, KJ6VU. George is best known as the host of the Ham Radio Workbench Podcast, the bi-weekly deep dive into making DIY electronics, using test equipment, and the technical side of amateur radio. Licensed since 1972, he's also a builder and entrepreneur with a long list of projects to his credit.



George Zafiropoulos KJ6VU

George is the CEO of Sierra Radio Systems and discussed their innovative products:

- PacTenna wire antennas for portable operation.
- Station Controllers for shack automation, monitoring, and repeater or remote station control.
- iShareRadio – His newest project with FlexRadio that lets clubs and individuals securely share remote radios.



George donated a PacTenna for our raffle. See the winner on our Raffle/ Sponsor page.



Control Everything in the Shack Remotely



President's Message

It's been great to see so much progress around the club over the last little while.

Our new membership management system is now fully up and running, and we're working through the membership list to clean up old information and make sure everyone is properly registered. We're also adding some new features that will help us get to know our members

a little better — things like what parts of the hobby you're interested in and what your home station setup looks like. Whether you're into DXing, contesting, POTA, digital modes, repeaters, satellites, antennas, emergency communications, or just getting started, this information will help us plan meetings, activities, and projects that better match what our members actually want to do.

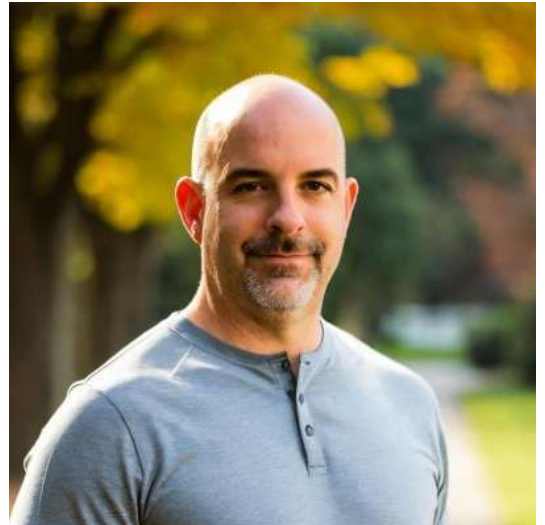
We've also made some good progress on the repeater. The replacement repeater has been acquired and installed, and the coax has been tested and is in good shape. Unfortunately, the old antenna didn't fare so well and appears to have been destroyed by a lightning strike. Our next step is to purchase a new repeater-grade antenna and get it installed so we can get the system back to where we want it.

Our monthly meetings continue to grow as well. We're now averaging around 40 people between those attending in person and those joining us on Zoom. It's great to see that kind of participation, and I hope we can keep building on it. The meetings are only as good as the people who take part, so if there's a topic you'd like to see covered, a project you'd like to work on, or something you'd like to share with the club, please let us know.

Thanks to everyone who continues to show up, volunteer, help with projects, and support the club. There's a lot happening, and I'm looking forward to seeing what we can accomplish together over the next few months.

73,

Jeff Dale, WB3ISP President, South Florida DX Association





New Members

Welcome New Members!

New Full Members must attend two meetings in person or on Zoom, so the Applicants listed with a (*) are fully qualified but pending.

Andy Allen NA4DA*
Ed Bishop KR4JTC
Michael Boucher KQ4LXV
Ryan Brukardt AD4CL*
Scott Cronin W4SO (Past Member, Welcome Back!)
Jorge Fernandez KP4PW*
Matt Frey W3RE*
Randy Hatt AA8R*
Kurt Hoyer AA4KH*
Jeff Orner WN3DX*
George Seijo N8XH

Want to join in on the fun? Simply fill out our [online application](#). The cost is only \$10 for Associate Members annually (no DXCC yet) or \$20 for Full Members annually (at least one mixed DXCC Award required).

You do not need to be local to join. The Zoom meetings alone are worth the price of admission.

MEMBERSHIP HAS ITS REWARDS...

- Operate the HF bands from our well-equipped club station (after on-site tutorial)
- Meet active members of the local DX community
- Hear informative speakers; witness technical demonstrations
- Learn about propagation, antennas, digital operating modes and more
- Meet DXpedition team members in person or on Zoom directly after their DXpedition
- Greet foreign DXers touring South Florida
- Strategize with others about how to work upcoming DXpeditions
- Exchange DX information daily with fellow members on the SFDXA wide area repeater
- Learn from our DXCC Honor Roll members the operating secrets you need to know to achieve that level of distinction
- Obtain physical assistance from other members for your tower and antenna projects
- Enjoy periodic SFDXA social gatherings

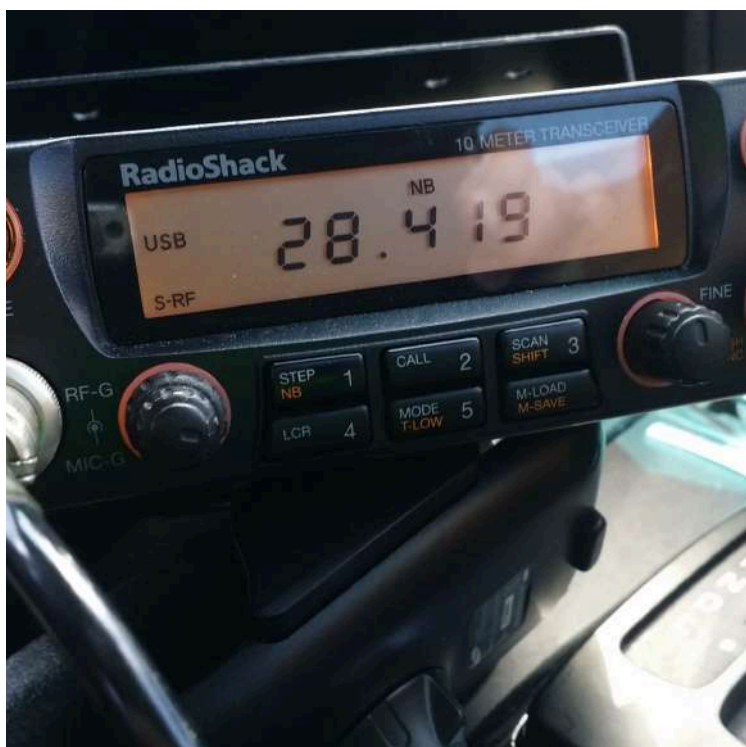




Show Us Your First Station

By Daisy Otero K4DBO

When I was first licensed in 2015, I had no idea what I was doing. It was one thing to take the test, but another to attempt to set up my own station. I decided to start small and cheap, so with my limited knowledge and newfound excitement for 10m, even though I was an Extra at the time, I went on eBay and purchased a Radioshack HTX-10 for \$102. The Radioshack HTX-10 is a compact, 25-watt monoband mobile transceiver built specifically for the 10-meter amateur radio band (28.000 to 29.700 MHz). Released in the mid-1990s, it's gained a strong following among hams as an affordable, entry-level rig for both FM and SSB operations. Many users still operate on the HTX-10 during good solar cycles and many reviews and DIY mods can be found online. I paired mine up with a ProComm PCF10 "stick" antenna to operate from my car. On July 3 of that year, I made my first ever 10m contacts and on July 5th, from the top deck of a Miami Beach parking garage, I was able to participate in my first special event, 13 Colonies. While I didn't make any DX contacts, it was a great introduction into operating outside of my local repeaters. I still own the radio and the "stick" and plan to attempt a POTA activation with it one of these days.



The Radioshack HTX-10



On the Air!



Questions of the Month

Answers are posted on the last page of the Newsletter

Question 1

Who was the first ham to transmit from space via Amateur Radio?

- A) Leroy Chiao
- B) Owen Garriott
- C) Yuri Gargarin
- D) John Glenn

Question 2

You hear a CW signal identifying itself on 14.100 MHz, followed by a series of rapid tones that step down in power, ending with another station ID. What global monitoring system are you listening to?

- A) Brian Justin, WA1ZMS 20M Beacon
- B) DARC Beacon Project
- C) The WA7X Beacon
- D) A Beacon from IARU/NCDXF

Question 3

This famous ham invented a legendary music device that was featured on the album "Switched On Bach"

- A) Bob Heil
- B) Steve Wozniak
- C) Joe Walsh
- D) Robert Moog

Question 4

Is FT8 so prevalent and easy to use that DXers are getting too lazy to bother with the other modes?

- A) YES
- B) NO

An Important New Publication You Might Want To Take a Look At:

Started in May 2025, SWR Magazine is a free digital publication dedicated to the global amateur radio community, published on a monthly basis in both English and Spanish. SWR Magazine's mission is to promote the exchange of knowledge, experimentation, innovation, and the core values that define amateur radio: service, ethics, scientific curiosity, and international collaboration.





SFDXA History by Bill W2CQ

with input from W4QN, W4UM

Some History Behind the SFDXA Club Call Sign and K4FK Repeaters

Over 50 years ago.....

The SFDXA was founded by Norm W4QN about 1975. Most communication with SFDXA Club members was Simplex on 147.360. A club want list was kept of Members needing a particular DX entity on that list. If late at night(or early AM) someone heard something rare, they checked the want list and called all members needing that country. Let it Ring once and then hangup. Hearing a single ring... the member ran to his 2 meter rig, and called in to find what was on and where...the first cluster?

And so it went...but soon repeaters were becoming popular, and Norm W4QN and Jerry N4NZ, rigged up a repeater but the range wasn't much different than simplex. Mike W4UM thought it was located at the N4NZ QTH near him in Plantation.(N4NZ SK-call now held by his grandson)

Then Sherm W4FLA(SK) arrived in Florida late 70's, bringing his own repeater. It was set up at his QTH with a call sign of WR4? His repeater was on 147.33...

Sometime after that Don W4WJ (SK) was President. He worked for TV station WTVJ, and it wasn't long before Don had a repeater on a TV tower and his call sign W4WJ, was used.

The club moved that repeater a number of times and we eventually were able to use a tower owned by the Florida Medical Center, through the courtesy of Benefactor Dr. Ed Dauer WB4HNM.

We shuttled back and forth between TV towers and the Hospital for several years until Elliot Gross KB2TZ joined. Elliot was an expert on Motorola and avid collector. An arrangement was made between the club and KB2TZ and it has stood since about 2004. He has provided maintenance, parts, antennas and repairs until now at no charge to the club. We recently purchased a Motorola Repeater from him. So many thanks are needed and heavy praise to Elliot who has provided the club with his work and expertise for all these years. He was Awarded Member Emeritus Status, and did earn the SFDXA DX HOG AWARD.



SFDXA History (cont'd)

But what about...K4FK?

I posted the following announcement to the club about 2005-2006 on or about the 10 year anniversary of receiving K4FK for a club call sign. (I've heavily edited it to bring some aspects up to date. Call signs are all updated - 9/03/26) -- Bill W2CQ

Robert (Bob) H. Walker K4FK, was an avid Ham Radio Operator. He was a DXer, SFDXA Club Member, an Excellent CW operator and a First Class individual.

Bob suffered from Kidney Disease and was on the list to receive a new kidney in the mid 1990's. He was in and out of Hospitals. Bob and Steve, W2ZR, became friends after one of Bob's trips into the hospital, and they often chatted late at night on the old packet cluster. On one occasion, Steve, thinking Bob was getting out of the hospital called him only to find out he had checked himself into a Hospice. They talked a few more times but Bob sadly succumbed to the disease.

About that time SFDXA Member Emeritus Tom Mannix WA4YLD, had to bow out as repeater trustee. He had to turn the responsibility of being Trustee of the Club repeater and Computer... all Club Shack Operations over to someone else, since his home responsibilities had increased.

Tom WA4YLD had handled the repeater, the club station, the packet cluster, Antenna busters and various other projects on behalf of the club for many years. He helped many others with anything they asked of him.

Steve W2ZR, who in 1996 was SFDXA President at the time, wanted to make Bob's callsign, K4FK, the Official SFDXA Club Call so he set out to do this before someone else had it assigned. New Vanity Program Rules were in effect. There were some members that thought a 1x2 callsign should only go to individuals and not a club. But Steve contacted Bob's Mother and received a letter from her giving permission for the South Florida DX Association to use Bob's call for its Official Club Callsign.

It was under the 2 year limitation for reassigning call signs for the deceased, so it actually did not make it to the public assignments, but it was still vulnerable. He did the paperwork and the club received the callsign in 1997. We have used K4FK for the repeater, contests and club work since that time and Steve became the trustee.



SFDXA History (cont'd)

Mike W4UM and Pete N8PR were good friends of Bob's. Pete eventually became trustee of the call sign, and shack responsibilities.

I knew Bob and I purchased a SX-17 and his Vibroplex bug, bought when he offered them to me.

Rest in peace, Bob K4FK. You were a wonderful member of our club and your callsign lives on as a tribute to your contributions and friendship.

Below are four 73 Magazine articles written by Bob K4FK from 1978 and 1979 when he lived in Coral Gables. The article I appreciated the most was his conversion of a Hygain 204BA four-element monoband 20M Yagi into a dual band 20/15 Yagi with full size elements on the same boom. For the full articles, [click here](#)





YLs on air

by Daisy Otero K4DBO

Does Amateur Radio have a gender problem? I'm both a newbie and a YL in a DX club that is predominantly men. Only about 15% of hams are female and some of those are HINO's ("hams in name only" as they are XYs and don't operate much). Don't get me wrong, our club has some XY's that are award winning DXers in their own right.

But I'm the only YL in our Club Log listing and I'd like to help change that. Statistically more than half of licensed female operators hold only a technician class license. In a demographics study done by KG4OCM in 2024, 66% of female operators were technicians, 15% were general and only about 7% were extra (not accounting for old classes) as compared to men where 43% were Technician class, 24% general and 21% Extra. In South Florida, when asked, VEs reported that only about 3-5% of new examinees are YLs. So how do we get them on the air, encourage upgrading their license and making DX?

This year I attended my first Hamvention in Dayton and a booth caught my eye: booth 2505, The Young Ladies Radio League ("YLRL"). The YLRL, founded in 1939, has been increasingly active and I encourage YL's to join. I myself plan on joining. The YLRL exists to encourage and assist YLs around the world to get into ham radio by offering information on specific areas of interest, a bi-monthly publication called YL-Harmonics, YL nets all over the world and even scholarships to assist YLs in continuing their education. They also offer yearly contests and even have their own take on DXCC, the YL-DXCC - You must work YL's in 100 Countries! Go to YLRL [HERE](#) for more info.



YLRL members at Hamvention 2025



LET'S TALK YLs and DX

When someone speaks of a DXpeditioner, they commonly use the pronoun "he". After all, many of the intrepid souls who risk life and limb in order to give us an ATNO are indeed men. I'd like to highlight one extra special YL DXer. Elvira Simoncini, IV3FSG, is a legendary Italian DXer and world traveler. Known for her prolific DXpeditions to some of the most remote entities on Earth, she has inspired countless hams with her dedication to the hobby. Elvira was inducted into the CQ DX Hall of Fame and continues to be an active voice for international friendship through amateur radio. She has operated from 34 different DXCC entities since 1990 often including a strong humanitarian effort in Africa. This includes an association with "IT WITHOUT BORDERS" where she teaches kids about computers.

Her famous quote is, "I believe radio can create connections and friendships across the world. Through my antenna, the world becomes closer".





Antenna Tower Permitting

by Ray Smolenski N4RU

CRITICAL DEFINITIONS

Definitions are critical here. What I will call “towers” in this article, cannot be called “towers” in your application to local government. Local government ordinances define a “tower” as a commercial telecommunications structure with vastly more austere regulations than an amateur antenna support structure which ordinances define as a non-commercial “accessory support structure” (ARASS).

PREFACE

The following outline is intended to provide generic, non-legal, guidance for winning local government building permit approval for tower erection. Using this outline or portions thereof, Building Permits for towers were successfully obtained in recent years in Boca Raton and Lighthouse Point by me and Howard W6HDG respectively. Since ordinances, codes, and standards change frequently within our many local municipalities, your personal success in winning permit approval will likely depend upon your doing further research in your specific municipality.

A MEXICAN STANDOFF

Seeking your city’s approval criteria for tower erection often leads to a classic “Mexican Standoff”. The amateur often lacks definitive regulatory guidance upon which to base a detailed tower proposal while the city lacks a detailed tower proposal upon which to base definitive regulatory guidance. Do NOT assume that the city or municipality will provide a definitive checklist of its tower acceptance criteria upon request. They will only provide detailed guidance following receipt of a formal Building Permit application along with permit fees and required certifications.

GOVERNING AUTHORITIES

Your city officials are usually the Authority Having Jurisdiction (AHJ) for Codes and Standards Enforcement and they alone are responsible for “interpreting” Codes & Standards. Currently the Codes relevant to tower erection are your municipal ordinances (“Municodes”), the Florida Building Code (FBC) 2023 [which incorporates the EIA/TIA-222 Rev. I Standard], and the National Electrical Code (NEC) 2026. Underwriters Laboratories (UL) is the Listing Standard typically cited. These Codes & Standards are normally updated on 3 year cycles and many cities quickly adopt the latest revisions while some cities retain earlier versions.



W6HDG's Tower in Lighthouse Point



Antenna Tower Permitting (cont'd)

GOVERNING AUTHORITIES (cont'd)

Home Owner Association (HOA) properties are governed by Municode and Covenants. **Often the CC&R's need to be addressed first, before the Municode, as they may be insurmountable.**

However, there are current federal legislative proposals being discussed which, if passed into federal law, could reduce or eliminate some current restraints on amateurs residing in HOAs.

Non-HOA properties are governed only by the Municode (assuming no deed restrictions).

MUNICODES

Municipal codes can be searched online at <https://library.municode.com/fl>. Municode often includes both Zoning Code and Building Code regulations relating to amateur antennas and support structures.

- Zoning Code regulations may designate amateur antennas as a "permitted use" in specific municipal zones but may dictate height and siting restrictions. They may also dictate tower base placement conditions.
- Building Code regulations applicable to tower erection require acquisition of a Building Permit with final signoff subject to both Electrical & Structural Installation Inspection and Approval.
 - Electrical Installation Inspection typically involves assuring proper bonding to the electrical service ground with properly rated UL Listed materials.
 - Structural Installation Inspection typically involves confirming that structural drawings are sealed by a Florida registered Professional Engineer-Structures (P.E.) certifying compliance with FBC 2023 and the EIA/TIA-222 Rev. I Standard.
 - Tower payload (your antennas & rotator) should NEVER be identified as it may change over time. Specify instead that the payload will never exceed the structure's P.E. certified maximum rated Rev. I wind load.
 - While the FBC 2023 wind survival requirement for new INHABITED structures in South Florida is 150-185 mph depending upon exact location, the wind survival requirement for an UNINHABITED "accessory support structure" (like a tower) classified as a Class 1 structure with Category 2 topography and Wind Exposure C) is often much lower (~115 mph) depending on exact location.
 - Tower erection must comply with OEM installation instructions.
- Code Variance approvals are often difficult, time consuming, and costly to obtain.



Antenna Tower Permitting (cont'd)

PROBLEMATIC SHORTCUTS

- Failing to obtain a Building Permit
 - May result in a substantial penalty if belatedly sought after erection.
 - Tower remediation / removal may be required if it is judged unsafe.
 - Failure to comply with city directives may subject owner to Code Enforcement fines or a property lien.
- Acquiring a Used Tower is gambling
 - May be far less expensive than a new tower
 - May or may not be structurally sound after years of service
 - Proving its' compliance with Rev. I to the city may be difficult particularly if the tower model is obsolete.
 - OEM Rev. I compliant documentation will be non-existent when
 - Tower model is no longer produced or technically supported
 - Tower OEM is no longer in business.
 - The city will consider a Building Permit application ONLY if it includes documented Rev. I certification by a Florida P.E.-Structures. Locating one who is willing to certify an obsolete tower model to Rev. I based upon decades old drawings may be difficult, expensive or impossible.

CITY REQUIREMENT FOR CERTIFICATION

- “Generic” model documentation from the OEM alone, even for a new tower, will NOT satisfy the city. Certified original, individually sealed, “site specific” engineering documents are an absolute requirement.
- Tower OEMs outside of Florida may not be able to provide Rev. I documentation sealed by a P.E.-Structures registered in Florida. The city will not accept such documentation from a P.E. registered elsewhere. The P.E. must specifically be STRUCTURES registered in Florida. The city will not accept such documentation from a P.E. registered elsewhere resulting in denial of a tower Building Permit.

KEY CHALLENGES

- Avoiding Common Planning Errors:
 - Failure to understand the Governing Environment
 - Failure to comply with the current standards of your city
 - Gambling on Problematic shortcuts.
 - Failure to obtain city required tower certifications.



Antenna Tower Permitting (cont'd)

KEY CHALLENGES (cont'd)

- Creating a Building Permit application to support your goals and all city requirements while mindful of your tower placement limitations:
 - o The amount and shape of suitable land area available.
 - o Setback distance from tower base to property lines.
 - o Separation distance from tower base (if concrete) to nearby foundations.
 - o Location of existing easements & underground utilities.
 - o Possible ground obstructions (e.g. swimming pool, deck, patio).
 - o Possible elevated obstructions (e.g., tall trees, overhead electrical service wires, nearby structures) within the turning radius & elevation of a rotating payload.
- Locating a Florida registered P.E.-Structures willing to certify any tower on a “one-off” basis for a reasonable fee.
 - o Very few Florida P.E. firms have tower experience.
 - o Experienced P.E. firms have minimum certification fees that are as high as 50% of the price of one new tower.
 - o A reasonable certification fee for a 50 ft. tower is ~\$600.
 - o P.E. certification consists of sealed engineering drawings with a 1-page P.E. sealed letter verifying tower compliance with FBC 2023 & EIA/TIA-222 Rev. I.
 - o Detailed P.E. calculations are NOT needed by the city which primarily seeks to transfer all future liability exposure to the certifying P.E. and to collect Building Permit fees.

LESSONS LEARNED A TALE OF TWO CITIES

LIGHTHOUSE POINT

Howard W6HDG and his XYL were looking for a non-HOA home in the Deerfield Beach or Lighthouse Point area. Fortunately, both these areas have older homes built in the late 1960's before HOA's became popular. He went to the administration offices of both cities to inquire about an antenna support structure. In Deerfield Beach, he was told “no antenna structures, period”. In Lighthouse Point he was directed to a positive sounding amateur radio ordinance with up to 65 foot antenna structures permitted!

They purchased the perfect house in Lighthouse Point. Yet, his antenna support structure application was denied. The permit rejection came back, “must meet Florida Building Code for coastal zone at 185mph wind survival”.



Antenna Tower Permitting (cont'd)

I met with Howard to discuss this dilemma. How could anything survive 185mph winds? The solution came from Aluma Tower from whom I had purchased my own tower years earlier. They could manufacture an aircraft grade aluminum tower in 4 sections that could extend to 40 feet but nest at just 13 feet. I then referred Howard to the same P.E. I had used years earlier. That engineer certified that the tower, when nested at Howard's roofline, could withstand 185mph winds. That sign-off was enough for the City. His permit was then approved and he happily has a SteppIR Urban beam up 40 feet. Like my article says, the City often wants to shift the risk to someone else so that their neck is never on the chopping block.

Howard likes to point out that some hams long ago helped their city fathers formulate an amateur radio ordinance which impacted fellow hams well into the future. This Sun Sentinel article from 1986 attests to this.

NEWS

SOUTH FLORIDA
SunSentinel

LIGHTHOUSE OFFICIALS TENTATIVELY OK ANTENNA RESTRICTIONS

By

PUBLISHED: November 12, 1986 at 5:00 AM EST | UPDATED: September 26, 2021 at 7:01 AM EDT

LIGHTHOUSE POINT — The City Commission gave tentative approval on Tuesday to an ordinance that would exclude existing ham radio antennas from proposed height restrictions in the building code.

The commission has considered ways to regulate antennas since September, when some residents complained about the appearance of tall antennas and the potential hazard if they collapsed.

Under the proposed ordinance, antenna and supporting structures that are more than 20 feet in height would require a building permit. They could not be constructed more than 65 feet high.

Residents who operate radios before the ordinance takes effect will be exempt from the regulations. However, present operators must notify City Hall to qualify for the exemption before the commission gives final consideration to the ordinance Nov. 25.

Those amateur radio operators who do not notify City Hall could be in violation of the new building regulations.

Most operators were happy with the commission's decision.

"We find that the commission's decision was very reasonable," said Juan Granados, a city resident who said he spoke for the audience of about 30 ham radio operators.



Antenna Tower Permitting (cont'd)

BOCA RATON

Since around 80% of communities in the City of Boca Raton consist of HOA properties, I decided to enlist the aid of a realtor friend to identify non-HOA communities in Boca before settling here in 2000. It surprised me to learn that there are more than 21 Boca communities that have no HOA. Unfortunately, the vast majority of these were built pre-1980 on small lots with overhead electrical service (making nearby tower erection unsafe). However, I ultimately found two non-HOA communities here with homes on medium size lots, built in the mid-1980's, including some homes with underground electrical service. These were major factors in my home purchase decision since, in the long term, I hoped to erect a tower on my property. My short term plan was to utilize a ground mounted multi-band vertical antenna and a wire antenna which required no building permits.

When the time arrived to erect a tower, several years after my home purchase, I spoke with Boca Building Department permit clerks and multiple tower OEMs in order to better understand the regulatory challenges I was likely to face and to develop possible solutions. Like Howard, I initially received discouraging news from the administration clerks who cited a 175 mph+ tower wind survival requirement. Since the clerks typically dealt with builders of inhabited structures, they routinely quoted that figure to everyone unaware that a tower (something unfamiliar to them) qualified as an accessory support structure (unattached to a home, akin to a backyard tool shed or gazebo) with a far lower (115 mph) wind survival requirement (a fact that I accidentally learned from a Boca Building Department supervisor).

Armed with that new information, I began my tower selection. I settled on an aircraft grade rust-free aluminum tower which has 80% of the strength but only 30% of the weight of a comparable steel tower. The Aluma Tower model that I selected was a 2-section model equipped with two winches for crank-up and tilt-over capability (thereby eliminating the need to ever be climbed). The tower is side-mounted to a very heavy duty 15 ft. long steel mounting pole with underground stabilizing fins that is buried 6 ft. beneath ground level in compacted sand (rather than concrete). The tower can elevate to 46 ft. from its nested height of 25 ft. and pivots over on the mounting pole at the 8 ft. point above ground.

In our coastal wind zone, after consultation with city officials, several tower OEMs, and my P.E., it is readily apparent to me that nested towers are far more likely to win Building Permit approval than stationary steel towers. Nevertheless, my tower nearly failed permit approval because my structural inspector initially thought that my tower had been installed on a concrete foundation separated only 7 ft. from my home's foundation (rather than the 10 ft. minimum separation required by Boca Municode). Once I clarified that point, signoff approval was immediate. Based upon input from Boca officials, I believe that I have one of the few (perhaps only) tower to gain Building Permit approval in Boca in the past 10 years.



Do your COM ports get locked up?

by Eric Spero WA1SXX

September 3, 2026

COM PORTS - ARE THEY LOCKED UP CAUSING OUR EXTERNAL CONNECTED DEVICES TO NOT OPERATE PROPERLY AFTER A FULL REBOOT?

Windows 11 Fast Startup causes COM port lockups because it does not actually shut down the operating system kernel. Instead of closing all driver sessions and clearing hardware handles, it logs off the user and hibernates the kernel session (Kernel Session 0) into a file called hiberfil.sys.

When you boot the PC back up, Windows reads this file to instantly restore the kernel, drivers, and system services back into RAM exactly where they left off.

Here is the exact chain of events that causes your COM ports to lockup:

1. The Session Persistence Loop

When Fast Startup is active, the physical system state powers down, but the logical state of the driver is frozen in time. When you boot back up, Windows skips the hardware initialization phase for the motherboard's serial hub or USB-to-serial chips. The kernel assumes the device is in the exact same state as before the shutdown, bypassing a clean driver handshake.

2. Orphaned Object Handles

Serial communication (COM ports) relies on strict software handles. When an application or driver opens a COM port, it locks that resource so no other program can intercept the data stream. Because the kernel is hibernated rather than closed, the Object Manager inside the Windows kernel retains the open file handles for those COM ports.

3. Power State Mismatch (D-States)

During a hybrid shutdown, the motherboard cuts power to the physical USB bus or serial controller, forcing the hardware into a low-power state (D3 state). However, the frozen kernel memory thinks the port is still in an active runtime state (D0 state).

- Upon reboot, the physical device wakes up and resets its internal buffers.
- The kernel driver tries to resume the previous session without sending a fresh initialization command.
- This mismatch creates an invalid state, locking the port and throwing "Access Denied" or "Port Already in Use" errors.

Why a Standard Restart Fixes It

When you select Restart instead of Shutdown, Windows completely bypasses Fast Startup. It performs a Cold Boot, forcing the kernel to exit completely, destroying all persistent object handles, and re-enumerating every hardware peripheral from scratch.

Windows 11 users would think that a full shutdown and reboot would perform a full reset, but it does not, only a restart does a full reset, to fix this perform this procedure.

Steps to Disable Fast Startup:

In the search panel type control panel and press Enter to open the Control Panel.

Click Power Options.

Click Choose what the power buttons do on the left menu.

Click the link at the top that says Change settings that are currently unavailable (this requires administrator permission so if not showing you need to restart control panel in ADMIN.)

Look at the bottom under Shutdown settings and uncheck the box next to Turn on fast startup.

Click Save changes.

Now both Restart and Full shutdown will always reset our Com Ports to our devices.



DX Happenings Sept-Oct 2026

By Rodger Stutes KM4NS

Have you bookmarked these popular DX News Sites?
[ARRL W1AW DX Bulletin - Current and Archived](#)
[425 DX News](#)
[DX World](#)

[Daily DX \(Free Trial then Paid\)](#)
[NG3K Announced DX Operations List](#)
[DX Calendar at DX Maps - sign up for daily email](#)
[Deutschen Amateur-Radio-Club DX Newsletter](#)

DX Happenings September-October 2026

Franz Joseph Land RI1FJL has gone QRT after a successful DXpedition. SFDXA members were well represented in the RI1FJL Log as shown in the clublog RI1FJL SFDXA leaderboard chart on the right.

1	W4UM	15	7	N4JRZ	6	13	W4OX	4	19	W2CQ	2
2	WN3DX	10	8	KB4UF	6	14	K4DBO	4	20	N0MB	2
3	WA1SXX	8	9	N4QV	5	15	KC3D	3	21	K4MME	1
4	KM4NS	7	10	K4FK	5	16	N4II	3	22	KB1PA	1
5	KK4CDK	6	11	K2AU	5	17	WB3ISP	3	23	N3EA	1
6	W6HDG	6	12	K2SHA	4	18	KS3K	2	24	K4FCC	1

Another DXpedition to Franz Joseph Land RI1FJZ is planned for early September through late September. So if you missed the last one, here is your chance.

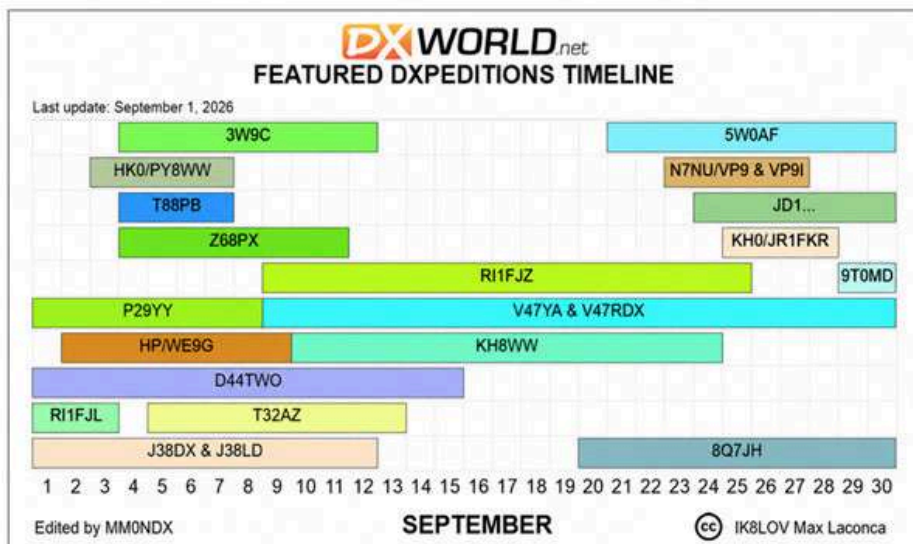


The RI1FJZ Team and Friends.



The Yacht Yacht Apostol Andrey has set sail in the arctic and is expected to arrive September 14, 2026. RW6MD/MM is the callsign during the voyage.

DX World Featured DXpeditions timeline shows several DXpeditions scheduled for September.





DX Happenings Sept-Oct 2026 (cont'd)

On a more somber note, the WRTC-2026 organization has disqualified the top finishers for cheating. A great summary by our president Jeff WB3ISP follows:

WRTC-2026 Rescored: The Winning Team Is Disqualified.

The organizers of the 2026 World Radiosport Team Championship have published a rescoring of the event, and the changes at the top are dramatic. Acting on information that arrived from the public after the awards ceremony, the Judging Committee re-examined the logs and audio recordings, disqualified four teams, and reshuffled the order of finish. Among the disqualified is MB2M – the team that had been declared the winner. The revised standings put MB50 (DJ5MW and DM5EE) first with 7,310,308 points, MB4G (N6MJ and KL9A) second at 6,955,083, and MB1T (K5ZD and W2SC) third at 6,836,480. MB4G also walks away with the plaques for most multipliers and best log accuracy, at half a percent errors. What the committee describes is a three-part scheme. First, an outside station with a decent signal camped on a chosen frequency during the hour before the 12:00z start. Second, at the bell, it vacated and handed that clear channel to a WRTC team – which quietly told everyone in on the arrangement exactly which callsign belonged to which operators, precisely the disclosure that Rule 12.2 forbids. Third, stations transmitting under fifteen pirated callsigns from rare or absent countries began working WRTC teams on the air, so that nearly every contact produced a fresh multiplier. Of the 435 contacts claimed with those fifteen calls, 86 percent were with WRTC stations, against roughly 13 percent for the rest of the IARU field. Almost none appeared on the worldwide skimmer network and none submitted a log; thirteen of the fifteen licensees confirmed they had made no such contacts. The median team picked up six of these multipliers. MB2M got 36 and MB2A got 32, and they were the only two teams worked by all fifteen. In one early exchange the pirate even fumbled, sending an ITU zone that belongs to eastern Europe rather than the Sri Lankan zone the callsign implied.

Three teams were disqualified under Rule 12.2 for the identity-revealing frequency handoffs: MB2M (VE3DZ and UW7LL), MB2A (US2YW and IK4VET), and MB1I (E77DX and DJ4MX). MB1I was not implicated in the pirate multipliers, and its operators admitted the arrangement and accepted responsibility; the other two teams offered no explanation for the behavior of the stations that vacated their frequencies. A fourth team, MB5Q (RW7K and KU1CW), was disqualified under Rule 12.7 after ten multiplier-producing contacts in its log turned out to have no trace in the team's own continuous audio recording, even though the QSOs logged immediately before and after are plainly audible. Six of those callsigns appear nowhere else in the 5,607 logs submitted. Separately, the committee ran a mechanical screen for "cheerleading" – friends feeding contacts to a favored team – and stripped eight offending callsigns from all fifty logs. That cost individual teams anywhere from five to forty-two contacts, but changed no positions.

The committee reports that the same frequency-handoff pattern and the same style of pirated multiplier injection are visible in the WRTC-2023 logs from Italy, where the winning station I44W was operated by VE3DZ and UW7LL – the same pair behind MB2M this year. Twenty-three suspect callsigns produced an average of 9.3 QSOs across the 2023 field, with 53 of them going to I44W. The 2026 committee is not rescoring that event, but it has put the evidence on the record. The closing tone of the document is more sorrowful than triumphant: the judges note that even the disqualified operators showed genuine skill on the air, and that contest scoring has always rested on an assumption of honesty that this scheme deliberately exploited.



SFDXA Groups.io Discussion:

Should DXCC Honor Roll Requirements Be Changed?

Howard W6HDG opened a Groups.io discussion on whether ARRL should modify DXCC Honor Roll requirements. This summary captures the original question and many of the responses from the SFDXA community. For the full thread, see [HERE](#)

Howard W6HDG (Aug 28 #840)

There are now at least 10 DXCC entities that are literally impossible to work since they can no longer be sanctioned due to political, governmental or environmental reasons. Newer DX'ers can no longer aspire to receive Honor Roll. Should the ARRL DX Desk remove some entities? Should they leave them but change the number needed for honor roll. Or should they leave things as they are?

Here are some examples of the "impossible" entities:

DPR P5 - No amateur radio operation allowed

Turkmenistan EZ - no amateur radio operation allowed

Aves Island YV0 - Sea Turtles are protected and patrols of the Venezuelan Navy completely restrict civilian radio operations.

Kingman Reef KH5K - Is now under water at high tide and under DXCC rules, scaffolding must be on "dry" land

Navassa Island KP1 - last activated in 2015, it was widely acknowledged as the last chance for hams

Palmyra Island KP5 - Wildlife refuge restrictions

Kure Island KH7K

Johnston Island KH3

Midway Island KH4

See last issue DX-Tra

Scarborough Reef BS7 - now even more heavily disputed than in 2007 (China and Philippines) and patrolled by maritime vessels.

Pratas Island BV9P - Military restricted by Taiwan. No amateur radio permissions since 2003

Miguel Hernandez KK4CDK (Aug 28 #842)

This is something I realized a while ago, a real handicap for us new operators, and I think ARRL should leave them but change the number needed for honor roll, that way the old hams keep them, and we new ones can achieve Honor Roll without the handicap.

Barry Porter KB1PA (Aug 28 #843)

Sometimes changes are needed for a program to remain viable. Adjusting the number needed down by 15 seems reasonable. Deep soul searching needs to be done to keep some entities on the list but that will take a lot more time.

Eric WA1SXX (Aug 28 #844)

Hams who chase DX know it is impossible to achieve Honor Roll with today's world restrictions. The hams who can make reasonable changes to the award are the DX Rules Committee and they are opposed to adjusting it. I was told when I suggested adjusting the counts 4 years ago: 'SO YOU WANT TO WATER DOWN THE AWARD!' Basically they don't represent the majority of licensed hams anymore.

Bill W2CQ (Aug 28 #845)

W4UM proposed levels of DXCC Honor Rolls, as in those for college degrees. Perhaps one for confirming all Current at 340, another 331 for others and an entry level maybe at 325... I think this is an excellent approach and I encouraged him to propose it further.



SFDXA Groups.io Discussion:

Should DXCC Honor Roll Requirements Be Changed?

(cont'd)

Rodger KM4NS (Aug 28 #846)

I would like the possibility of making honor roll but would not like to take away from those who have made it already. So I would like to see an honor roll requirement based on what is possible today.

Bill W2CQ (Aug 28 #847)

I also might add that DXCC is so simple to accomplish right now because of the FT8 mode, maybe that thinking should apply to DXCC itself. With Entry Level at 75 now and DXCC+ at 150...or some logical numbers...???

Barry Porter KB1PA (Aug 28 #848)

I would encourage sending your requests to all the officers and directors of ARRL, with an explanation that this has been proposed and rejected outright by the current DXAC. Maybe a Time for new committee members. Or that the BOD consider this and direct the DXAC to 'make it so'.

Carlos N4IS (Aug 28 #849)

The Honor Roll are people that wait 20 years or more to log China, and or others rare entities. It Honors the effort people put together. Changing the rules is a dishonor for all people already awarded. Wait another 10 or 20 years and honor your name on the wall. Don't screw all of us over 50 years on radio just because you cannot wait!

Howard W6HDG (Aug 28 #850)

JC, No one is trying to cut the line. If waiting were the answer, it would be fair... But what is fair about Turkmenistan? Professor David Pommerenke conducted well-run operations (EZ/DL7ZM) in 2023-2026. ARRL declared these activations invalid for DXCC credit. ARRL can't have it both ways- requiring a contact and denying a professional operation. Catch 22?

Carlos N4IS (Aug 28 #851)

Hi Howard, It is not catch 22. ARRL is just clear about the regulations. Do you remember the controversial 1992-1993 North Korea operation as P5RS7? It was cancelled due to lack of proper documentation and ethical concerns. Most of the DXCC ARRL regulations were designed to avoid short cuts.

Mike W4UM (Aug 28 #852)

I agree that we should not take something away from someone who has earned it... but we do have 'lower' grades of ham license, and might consider a 'junior' grade honor roll, somewhat like a 'technician' grade honor roll, to start at, say, between 321 to 325. I would consider it if it helps keep hams active.



SFDXA Groups.io Discussion:

Should DXCC Honor Roll Requirements Be Changed?

(cont'd)

Bill W2CQ (Aug 28 #853)

Several on the list they say can be had by waiting for a DXPedition... Just about everyone on the Honor Roll waited for a DXPedition for one or more... some for more than 10 years...

Stephen KA2KON (Aug 28 #854)

Absolutely it should be changed. It looks to me we have the battle of the haves and the have nots. Leave the list alone and lower the criteria. Those older honor roll people can brag they are prior to 2026.

Barry Porter KB1PA (Aug 28 #855)

I doubt anyone here wants to lessen the achievements of the current Honor Role members. They have spend many difficult hours building their stations and antennae... The reality of today's modern world is that achieving Honor Role is near impossible. Once the current honor role holders die off there will be no one to replace them. Why can't we give the current members a title (like 'Amateur Radio World Wide Ambassador')? And make some adjustments to keep the honor role alive for the future?

Howard KC3D (Aug 29 #857)

It seems ridiculous to have an award that no one can achieve because of various environmental or political reasons. N. Korea should not be a requirement until/if ever, they open up ham radio. I got my extra ticket when 20 wpm was required. The ARRL had no problem lobbying the FCC to do away with the 20 wpm requirement. They never gave a minutes concern to how that would make the existing extras feel. So why is this different?

Barry Porter KB1PA (Aug 29 #858)

The ARRL opposed getting rid of the Morse code requirement for all classes of license. They wanted to keep it for the extra class. The FCC did not agree and changed it for everyone. Its a myth that ARRL agreed.

Eric WA1SXK (Sept 1 #859)

It amazes me how some of our fellow ham partners feel about the Honor Roll award and how they are not willing to apply new logic to the award system. They were able to make it to Honor Roll status based on the DX countries that were allowed to be active during their lifetime. Yet now the counts have changed in a downward slope. These fellow hams are not willing to understand that the award is not realistic anymore and they seem to feel if a change is made it is taking something away from them and their achievement of reaching Honor Rolls. Yet during their period in the chair chasing DX, they saw countries and entities added, with DX counts going up not down. Younger or newer DX chasers face a mathematically impossible ceiling because many of the locations which are required to meet Honor Roll simply cannot be activated anymore.

The award should be applied with a fair and reasonable confirmed "percent" of the total counts that can be active during a year, and adjusted each year as entities are added or taken away, otherwise get rid of the award which has become meaningless and obsolete now.



SFDXA Groups.io Discussion:

Should DXCC Honor Roll Requirements Be Changed? (cont'd)

Carlos N4IS (Sept 1 #860)

Eric,

I understand your point, and I feel similarly about my goal of working 160m CW—there are almost no new countries left for me to work.

However, I think the confusion is that Honor Roll is being viewed as an award. It is not. Honor Roll is simply a spreadsheet or published ARRL DXCC list reflecting the current number of recognized entities.

If the ten countries mentioned are deleted, everyone's totals will decrease. For example, many operators—including me—could fall below the Honor Roll threshold.

Honor Roll is only a statistical result. Being above or below the line does not change what anyone has accomplished or earned in working DXCC countries.

Everyone should be proud of their own total number of countries worked. Changing the statistics or list will not change that accomplishment, and there is nothing to prove by being on one side of the line or the other.

Howard W6HDG (Sept 1 #861)

This has been a very lively and interesting debate. I don't have honor roll. And as a ham for 63 years, it's my own damn fault. I just didn't appreciate how important it might become to me after I retired. I can't tell you how many DXpeditions slipped by me or that I actually worked but never documented or requested a QSL card for. People with honor roll didn't let things slip by, so I can appreciate how precious the award is to those who have attained it through dedication and hard work. But I am completely in favor of an award that is actually attainable for newer hams to strive for.

Eric WA1SXX (Sept 1 #862)

If Honor Roll is a statistical number of the total DXCC (if it has been some percent of the total) and if the total DXCC counts were to drop due to new world changes. Why would those who already reached that statistical number still not be listed as Honor Roll recipients based on the year/DXCC counts they reached that statistical number? Nothing was taken away from their accomplishment, and those hams are still Honor Roll recipients in the ARRL record books forever. When Honor Roll status is reached by a ham with higher DXCC count number it should be recorded along with their reaching the Honor Roll status. Meaning as the total number of DXCC changes up or down, everyone who reaches a set percent let's say 3% of the total at any given time will receive recognition of a Honor Roll achievement and listed as Honor Roll recipient. That would seem to me to be very fair to everyone, those who have the Honor Roll now and the new upcoming hams trying to reach Honor Roll. This kind of rule would be inclusive for new hams to enjoy who can be trying to reach a realistic achievable goal.

A final thought, I often hear "Vintage hams" staying they have 345 DXCC because of the entities that were changed and removed they worked back in the early days, so it's all good for chasers of DXCC to keep plugging for higher DXCC counts even after counts change, those old contacts can't be taken away from them or removed from their logs no matter what.

DXCC Totals in 2026 are 340 and less 9 or about 3% for Honor Roll status.

Results Summary

Well, just like every other thread on this topic, SFDXA hasn't come up with a consensus. It seems clear that the divide is between the "haves" and "have nots". Will the ARRL settle this dilemma or stick their head in the sand? Time will tell.



Club Log Results

Club Log, created by Michael G7VJR is an indispensable tool for DXers. Below is a report of how SFDXA is currently doing. Compare your results to other members of our club! By the way, we have recently moved up to a rank of 30th DX Club in the World! We would like for all of our members to join Club Log, whether you have 1 entity worked or are Top of Honor Roll. Twenty-three DX Club members as of this writing is a fraction of our membership.

Be sure to go Clublog.org to sign up. Upload your log as instructed. Then go to SETTINGS: CLUBS to join us. It takes a day or two for our club administrators to approve you.

League for SFDXA - South Florida DX Association

Rank	Callsign	160	80	60	40	30	20	17	15	12	10	6	DXCC ▼	Slots	Range
1	W9IL	15	138	0	221	163	334	275	310	208	285	8	340	1957	68 yrs
2	N4QV+2	113	243	81	305	292	337	295	313	256	294	88	339	2617	60 yrs
3	K2AU	4	195	3	250	261	330	290	314	280	278	20	339	2225	51 yrs
4	W4OX+1	108	257	10	329	219	335	271	324	235	307	85	338	2480	57 yrs
5	N4JRZ	0	73	0	168	13	322	292	310	275	281	121	335	1855	42 yrs
6	N4IS	303	270	0	248	207	238	200	227	184	225	112	333	2214	26 yrs
7	K4FK	30	102	1	141	110	263	139	213	122	148	5	330	1274	26 yrs
8	K2SHA	0	143	7	216	224	299	279	298	230	225	41	325	1962	24 yrs
9	KM4NS	128	119	157	173	206	262	212	262	193	221	102	319	2035	25 yrs
10	W6HDG	3	141	8	245	250	292	270	269	219	234	99	316	2030	63 yrs
		160	80	60	40	30	20	17	15	12	10	6			
11	K4MME	0	8	0	33	40	170	80	118	67	73	1	312	590	16 yrs
12	WA1SXX	102	230	16	278	291	303	296	294	289	287	100	310	2486	10 yrs
13	W4AS	27	102	1	132	102	244	113	204	105	204	130	307	1364	48 yrs
14	WN3DX+3	16	119	19	199	206	247	227	216	186	218	23	305	1676	47 yrs
15	W2CQ+1 ★	2	98	0	136	157	174	220	188	207	229	102	300	1513	37 yrs
16	K4ROX	0	11	0	114	75	225	160	165	151	173	27	285	1101	13 yrs
17	KK4CDK	0	52	92	156	89	181	189	195	160	199	32	256	1345	1 yrs
18	KC3D ★	5	33	0	89	11	157	59	119	21	73	7	200	574	47 yrs
19	KS3K+2	0	2	0	69	33	154	79	114	7	104	3	195	565	58 yrs
20	TG9AWS+1	3	8	0	83	90	100	93	81	47	76	17	184	598	38 yrs
		160	80	60	40	30	20	17	15	12	10	6			
21	K4DBO+1	0	3	0	88	73	142	67	85	1	65	2	177	526	11 yrs
22	KJ3Q+1	0	2	0	34	1	103	30	57	15	90	0	152	332	14 yrs
23	C6APS	0	0	0	90	74	103	82	87	81	67	0	134	584	1 yrs

You can link to your club here: <https://clublog.org/league.php?club=121>



DX Spotting Networks and Digital Clutter

by Howard Groveman W6HDG

The DX "Cluster Clutter" Dilemma of Modern Spotting Networks

Does your DX Cluster look like an FT8 Waterfall? Although impossible to say 3 times fast, "Cluster Clutter" on DX clusters and band maps can feel heavily skewed toward FT8 and other digital modes. This often crowds out SSB and CW spots. Nothing against FT8 at all, but it further pushes that digital mode to become the mode of least resistance when turning on your radio. FT8 has trounced SSB and CW in the last Clublog mode report as seen below.

Most active modes

Clublog August 2026

This chart illustrates which modes are being used most heavily during the period of this report.

Mode	% Use	QSOs	Graph
FT8	72.46	693,694	
CW	12.38	118,524	
SSB	8.60	82,324	

What is Going On?

- High Volume: Automated software (think PSK reporter on WSJT-x sending spots even when you are not sitting at your radio) and massive numbers of worldwide skimmers feeding thousands of FT8 decodes into the cluster network continuously. FT8 activity operates 24/7, generating massive numbers of spots compared to SSB or CW.
- Many DX cluster nodes and raw telnet feeds do not pass a "mode" field; instead, logging or spotting software tries to guess the mode purely based on the frequency. That used to work well for CW and SSB since frequency was the delineator. Because FT8 frequencies sit inside traditional data/CW sub-bands, filters often get confused. FT8 commonly gets listed as "CW" on the Cluster, so putting in a server side filter for "CW" (when you want CW) still gets you FT8 clutter.
- Even if you see an FT8 station on the cluster you want to work, clicking on that cluster line (if your radio is CAT controlled) commonly puts your rig into CW mode because the Mode is being passed as CW - what a pain!

What can I do?

I asked this question today of Mike Carper, Ph.D., WA9PIE of HRD fame. He runs the excellent WA9PIE Cluster Node. Mike corrected my statement above, "It's not that 'many DX clusters' don't have a mode field. NO DX clusters have a mode field. There is no dedicated field that DX clusters can use to pass mode. As such, the user has to specifically put SSB or CW in the Comments field to tell others that the station was operating SSB or CW." He goes on, "I've been complaining about this lack of a dedicated mode field in DX clusters for many years. I've spoken to Lee (VE7CC) and Dirk (DX Spider) about this. Neither of them are interested in adding such a field... and both of them offer the idea of users entering the data manually into the Comment field."

These skimmers (bots) are automatically putting FT8 into the Comment fields. Because of this... and because it's highly automated... operators connected to DX clusters could get the impression that the DX cluster is a "WSJT cluster." Mike goes on, "But the answer is pretty simple... that is... create a server side filter that rejects any DX spot that contains 'FT8' (or FT4) in the Comment field. This would eliminate all of this for the user."

Regarding his feelings about the FT8 mode, Mike says. "I'm a DXer. I'm hunting band countries for DXCC Challenge. When a new band country comes up, I go to whatever mode the station is operating on to get that new band country. It's not that I'm a fan of FT8. But if that's where the DX is, that's where I'm going."



Raffle Prize Winners/Sponsors



Top Left: \$25 R&L Gift certificate won by KP4PW Jorge Howard W6HDG is presenting.

Top Middle: W0AEZ \$50 gift certificate won by W1RG Gil

Top Right: \$50 Alpha Antenna coupon won by N4QV Randy

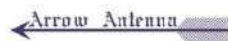


Bottom Left: \$25 SignMan Gift Certificate won by Daisy K4DBO

Bottom Right: Packenna: won by N8XH George

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Answers to the Questions of the Month

Answers

Question 1

Answer: B

On December 1, 1983, Owen Garriott W5LFL (SK) called CQ from the Columbia Spacecraft and was answered by Richard Collister, Jr. WA1JXG (now W7GJ) in Frenchtown, MT.

see [YouTube Video Here](#)

Richard is an EME operator who has operated 6M DXpeditions all over the world.

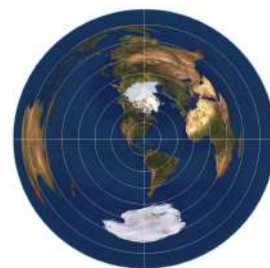
ARISS, of course, has since made space contacts a regular occurrence for earthlings, see [HERE](#)



Question 2

Answer D

The Northern California DX Foundation (NCDXF) / IARU International Beacon Project. This worldwide network of beacons transmits on 14.100, 18.110, 21.150, 24.930, and 28.200 MHz, cycling through power levels (100W, 10W, 1W, 0.1W) to help hams analyze propagation.



Question 3

Answer D

K2AMH, Bob Moog (SK), invented the amazing Moog Synthesizer in 1964. According to [Wikipedia](#), Moog had been designing and selling an electronic instrument called the Theremin for several years while working toward a PhD in engineering physics at Cornell University. He developed his synthesizer in response to demand for a more practical and affordable electronic-music device, guided by suggestions and requests from composers. Moog's principal innovation was the voltage-controlled oscillator, something fellow hams can appreciate, which uses voltage to control pitch. He also introduced fundamental synthesizer concepts such as modularity, envelope generation and the pitch wheel. He is credited with introducing synthesizers to a wider audience and influencing the development of popular music. He never patented the Moog Synthesizer and sadly died at the age of 71 in 2005 of brain cancer.



Question 4

Answer: It is a matter of opinion. In 2014, before JT65, CW was the most popular mode (by number of DX contacts made).

FT8 is a fabulous invention - a low signal mode that is bringing more younger STEM people into the hobby. It allows antenna challenged hams to stand a chance of working toward a DXCC. It gives little pistols a chance to work rare DXpeditions. But wouldn't it be a shame if we all get so lazy as to work FT8 exclusively. This would be an unintended consequence of K1JT, Joe Taylor's brilliance. See the "Digital Clutter" article.