

IRVING AMATEUR RADIO CLUB

Serving Amateur Radio Since 1955

WA5CKF REPEATERS:
146.720 - PL 110.9 TSQL
110.9 224.400 - PL110.9
442.675 + PL 110.9
442.375 + PL110.9

March 2025



January Meeting Information

The next in person Meeting will be on March 27th 2025 at the club Shack at Betcha Bingo hall on 2420 W Irving Blvd, Irving, TX 75061.

President's Corner

Ken Hansen N2VIP

President, Irving Amateur Radio Club, Inc.



Welcome to my penultimate President's Corner!

We had a very successful hamfest earlier this month – we'll discuss the numbers at this month's meeting, but briefly we sold 72 tables, we sold-out of tables almost two weeks before the event (the earliest I can remember selling out), we had over 300 attendees, and we sold a tremendous amount of additional raffle tickets (we averaged over 5 raffle tickets per paid attendee). Sadly, while we turned a profit (we always do), we over-spent on door prizes relative to the number of attendees. This reduced profitability will impact the size of our donation to the Dallas Amateur Radio Club, but it will reflect their volunteer participation in the event (about one-third of the volunteers for the Hamfest were from the Dallas club). I'll share more details in-person at the March Meeting.

As you should be aware, as you read this we are wrapping-up our annual officer election, and for the first time in a long time, I am not running for President (I am finally term-limited!). Unless something unforeseen happens Ron Ford will be the next President of the club, and Ron Tabb will be Vice President, and I'm very excited to see what new direction "The Ron's" will take the club. Over the past 8 years it has been my honor to serve as President of this club, I think it has grown and become an even better club than it was. As a reminder, over the past 8 years we greatly expanded our charitable giving to organizations in the Irving community, we started sponsoring scholarships for local Irving children, and for several years we ran the micro-grant program, benefiting several area clubs, enabling them to better server their communities and the amateur radio community with improved infrastructure. The club shack has been renovated and re-invigorated – we have a fantastic HF setup at the bingo hall, we are working on our VHF/UHF setup, and in the near future, if there is sufficient interest, we may explore the possibility of installing an automated satellite station. Our annual Hamfest has been optimized so that now it nearly fulfills the promises made to me when I first took it over some ten years ago – that the event "nearly" runs itself. We've simplified the room configuration, online ticket and table sales, and, every year we consistently have a solid turnout of vendors AND attendees. I leave office proud of the work of the members to turn the Irving club into something we all can be very proud of – thank you all.

I'm going to make a pitch to everyone not currently involved in ARES/RACES to consider doing so – it's a great way to give back to the community and the effort is fairly minimal. Along those same lines, if you can participate, please consider helping with the monthly siren tests. Weather-permitting, the city tests the sirens at 1:00 PM on the first Wednesday of the month,

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Newsletter Editor

Jerry Aberdeen KB3RWT

General/Business Meeting:
27th March 2025 @ 7:00pm

Weekly Meeting Nets:
7:00 pm each Thursday on
the WA5CKF 2m repeater.

Monthly VE Testing:
2nd Saturday of the month,
Business Jet Center at Dallas
Love Field. Check the IARC
Calendar here for more
details. —

Contact Us

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Irving, Texas 75015-3333

Facebook:
<https://www.facebook.com/irvingarc.org>

President's Corner Cont'd

all that is involved is getting to the siren before the test then reporting the result of the test back to net control over the club 2 meter repeater.

Another thing that arose during my tenure as President was the Thursday Night Net – the origins of the net were simple, driving to a club meeting one night I happened to listen to the club repeaters on my drive in and, hearing nothing on any of our (then) three repeaters I promised to be on the club 2 meter repeater at 7:00 the following Sunday and invited anyone interested to join me. Several people did, we all agreed it was fun, and soon it migrated to Thursday night from Sunday, and it has been quite successful (I've lost count of the number of new members that have joined the club after participating in the net!).

Finally, I'll make a pitch to consider writing up your last project for a future newsletter – we could always use more content, and its always interesting to see what others in the club are up to. If you're not comfortable sharing something for the newsletter, consider posting updates/pictures on the club Facebook page or on our discord server – while Facebook is a potentially global platform, the discord server is used mainly by fellow club members and it's a great way to share what you've been up to, ask questions or help other club members figure out something they are struggling with.

As I step down for the role of President next month, I hope to focus more of my energies on the club repeaters – we have a couple C4FM/Fusion and a Dstar repeater that we could hopefully setup for digital operation, making some of our repeaters digital and hopefully more useful to the membership.

I hope to see you at the upcoming meeting, we'll be talking about the Hamfest that we just held, and planning for the upcoming Field Day – it should be an interesting meeting, I hope you can attend.



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From The Desk Of the Secretary

IARC February Meeting
27 February 2025
Betcha Bingo II



Officers Present:

President: Ken Hansen N2VIP
Vice President: Bill Byrom N5BB
Treasurer: Kim Bacak N5KCB
Secretary: John Cheyney KF5PFP
Director: Ron Ford KF5OMH
Shane Outlaw KI5GBU
Barry MacGregor N5SMW

Meeting called to order at 1905 by Ken Hansen N2VIP

18 members and 3 guests present

Pledge: Ken Hansen N2VIP
Prayer: Ron Ford KF5OMH

Treasurer's Report from January.

Kim Bacak N5KCB read the report.

There was a \$110 charge to Amazon on her club credit card. Kim researched it and it was a purchase she did not make. She is getting a new card and the bank is refunding the money.

Motion to accept Treasurer's report: Lyle Baker AI5NO

Second: Ron Ford KF5OMH

The Secretary's Report from January was published in the newsletter.

Motion to accept: Bill Byrom N5BB

Second: John Moss KI5WRQ

The club has given \$2000 to the Irving Schools Foundation for the scholarships. Bill Byrom N5BB will let everyone know when we get word to pick recipients.

We have voted to hand deliver the checks to each charity that is getting a \$5000 donation.

- The Main Place Irving
- Irving Cares
- Many Helping Hands Irving

John Cheyney KF5PFP will send emails to each charity that they will receive the check and that we will set up delivery in the immediate future.

Ken Hansen N2VIP gave a Hamfest update. Table sales have been shut down for two weeks. We have had several sellers who took multiple tables. Next year Ken thinks tables should go to \$15, up from the current \$10.

Nominating Committee: The following positions will need to be filled.

1. President (Ken Hansen N2VIP)
2. Vice-President (Bill Byrom N5BB)
3. Director (Ron Ford KF5OMH)
4. Director (Venzula Matthews KF5PJH)

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From The Desk Of the Secretary



Jerry Aberdeen KB3RWT presented the nominations:

1. President: Ron Ford KF5OMH
2. Vice - President: Ron Tabb KC5HPO
3. Directors:
 - Will Turk N5TLH
 - Roger Bacak K5RCB

Floor Nominations.

- Billy Geer KA5OZC
- Lyle Baker AI5NO
- Ken Hansen N2VIP
- Bill Byrom N5BB

Vote to accept the slate: Ron Ford KF5OMH

Second: Billy Geer KA5OZC

Accepted. Nominations are closed.

John Cheyney KF5PFP will put the ballot out via HamClub Online. Ballots go out on 12 March 2025 and will come back 26 March 2025 and will be reported at the meeting on 27 March 2025.

Shack Update: John Cheyney KF5PFP said we will need to go up on the roof in March or April to look at the antennas and do any needed maintenance. The date will depend on weather and attendance.

John Cheyney KF5PFP reported on the meeting of the computer group delegated by Ken Hansen N2VIP

- John Cheyney KF5PFP
- Ron Ford KF5OMH
- Bill Byrom N5BB

John presented the results to the group.

1. Get rid of the three Dell Windows 7 laptops and do not replace them.
2. Get rid of the two desktops (Dell Windows 10 and Altex Windows 7) in the vault and do not replace them.
3. Keep the current Dell laptop used by the Treasurer and the Asus laptop for logging.
4. Replace the two desktops in the shack and the ECHOLINK desktop. That includes new monitors and peripherals.

John will bring details on the recommendations to the next meeting.

Ken Hansen N2VIP is asking people to get on Discord as a way to communicate across the club.

Ken Hansen N2VIP would also like people to increase the use of RemoteHams.

Ken Hansen N2VIP will look up what it takes to connect one of our repeaters to the Yaesu Wires-X network. He will also put together a presentation for the club on various digital modes for after Hamfest

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From The Desk Of the Secretary



Membership vote for Donald Parker NA5V.
Has applied as an Associate Member.
Ron Ford KF5OMH talked about him to the group.
Motion: Ron Ford KF5OMH
Second: Ron Tabb KC5HPO
Unanimous.

Marco Bulgarelli NN5MB reminded everyone about the Brunch meeting. Currently on Wednesday at 10am although this could change.

Billy Geer KA5OZC reminded everyone about the siren test on the first Wednesday of the month.

Motion to Adjourn: Bill Byrom N5BB
Second: Jerry Aberdeen KB3RWT

Meeting adjourned at 20:14

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Open Shack Day March 2025

by John Cheyney KF5PFP and Kirk Hooks N3KDP

According to NWS DFW, an EF-1 Tornado with peak winds of 110 mph touched down in Irving March 4th, 2025 less than a mile to the East of the IARC hamshack. The twister displaced dozens of families and caused severe damage to area homes, buildings and property.

For several days it was unclear if any damage was sustained to the IARC antenna equipment at the hamshack Jerry Aberdeen (KB3RWT) conducted a reconnaissance mission with his drone and provided aerial video imagery of the building from above. It appeared that one of the dipole support poles was toppled by the high winds. If there was any damage it was believed likely to be minor but as a precaution the radios and the remote operation were turned off until a physical inspection could be conducted.

On Saturday 15 March, at Open Shack Day, we went on the roof to work on the antennas. We knew we had at least one end of the folded dipole on the roof from the drone flight Jerry Aberdeen KB3RWT.

Kirk Hooks N3KDP and I went on the roof while Andrew Harmon KD5RKO and Ron Ford KF50MH did the ground work. Andrew was also kind enough to loan us his ladder. We found the front leg of the dipole turned over. That pole had been guyed down with cinderblocks and the wind was strong enough to pull them out of place. The other end's support pole had two cinderblocks, but it also had a guy to the building itself. We were able to rearrange the antenna so that both ends now have connections to the building as well as cinderblocks. Ron was able to immediately make an SSB contact to Jamaica using that antenna.

We also untangled the elements on the cobweb. The clamps on the arms were arranged so that one of the elements was caught on them, which allowed other elements to wrap around it. Were able to free that and tuck the clamps in so that shouldn't happen again.

The 20M vertical and the UHF/VHF antennas were all in good shape. All the connections looked good. We were able to turn the remote radio back on.

Thanks to everyone who attended, including Kim Bacak N5KCB, Roger Bacak N5RCB, and Ken Hansen N2VIP.



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Open Shack Day March 2025

by John Cheyney KF5PFP



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Shack Update

IARC Lending Library

The club has purchased a library of books from the ARRL. These books are in the shack and available for check out by club members only. We are working on a way for club members to get to them. For now you can check them out at any shack event, or by contacting Ken, John, or Kim and setting up a time to meet. Please only keep each book two weeks at a time.

- ARRL Technician, General, and Extra class manuals
- ARRL Handbook
- ARRL Antenna Book
- Basic Antennas
- RFI Book
- Understanding Basic Electronics
- Basic Digital Electronics
- And many others

Club Equipment for Loan to Members

The club has several pieces of equipment that members can borrow for testing their stations, or for use at events. If you'd like to use some of this you can pick it up at any shack event, or make arrangements with John or Ken.

- Rig Expert AA-600 antenna analyzer
- IFR Service Monitor
- Anderson Powerpole crimp kit (you have to supply your own connectors)
- Soldering equipment
- Several desktop power supplies
- MFJ-557 Morse Code practice oscillator (for practicing CW)
- Multiple sets of HT's and tape-measure Yagi antennas for fox hunting
- 25 watt Retevis 2M mobile radio in an ammo can (great for events like the parades)

In addition we can lend out the UHF/VHF go box (contains two radios), the IC-7300, the PowerWerx battery box, and a number of antennas and coax runs to support special events or for testing.



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RACES/ ARES Corner

The Irving RACES/ARES group is always looking for amateur radio operators willing to join them in community service to the city of Irving, all you have to do is be a licensed amateur radio operator, and either work or live within the city of Irving. If you are interested feel free to contact Carry Johnstone KD5RFB.

Siren Test

Reminder to all,

Both the IARC and Irving RACES ARES group have committed to support the monthly Irving siren (ENS -Emergency Notification System) test.

Irving has 26 sirens located through the City, on City property. All sirens rotate and make a LOUD siren type noise, with the exception of the one that is located on top of the Irving Convention Center that does not rotate.

There is always a monthly test that occurs on the first Wednesday of each month at 1:00 PM and lasts 3 minutes. There are two types of tests, a full function test, siren and rotation (if it is designed to rotate), and a silent test (rotate only if it is designed to rotate). The silent test is only done if there is any possibility of a weather threat, or any other reason the OEM (Office of Emergency Management) feels it may confuse the citizens.

We will only monitor the test for full functionality, NOT the silent test. I will notify all that has a siren assignment if the test is silent (usually before noon on the day of the test), and get confirmation you received that notification.

The individual effort will take only around 5 minutes at the location, but may take a total of 15-45 minutes, depending on travel time to and from. You MUST be close enough to your assigned location to see it rotate and sound for the full 3 minutes (ear muffs and/or ear plugs are recommended).

A list of all the sirens with the ones needing to be observed identified to choose from will be sent to all the IARC and Irving RACES ARES group members the weekend before the test. You will need to notify me of your choice, and I will conform it is yours to observe, or request you to pick another because somebody else has picked it.

We, as Amateur Radio Operators, enjoy this hobby, and this is one way we can give back to the community. This is one of the reasons the FCC has allowed us to have assigned frequencies/bands to operate on, as HAMS, to enjoy and have the skills needed to support any government entity if needed, or during times of a national emergency. It is a GREAT and fun hobby.

Regards,
Billy KA5OZC

Note: *Volunteers are needed to help test the Irving city siren system every first Wednesday of the month. If you are interested in helping, please contact Billy KA5OZC at 214 587 8729 or via email: wgeer@verizon.net*



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March POTA Activation Of Spring Creek Forest State Preserve US-4423

By John Moss KI5WRQ



March POTA Activation Of Spring Creek Forest State Preserve - US-4423 - Was Breezy

Will Turk - N5TLH - and I decided to activate a new (for us) Parks on the Air park - Spring Creek Forest State Preserve in Garland (US-4423). The Forest Preserve is just off the George Bush Turnpike in Garland, and is only a 30 minute drive from Irving.

The Preserve is a beautiful, biologically diverse ecosystem with about 230 acres of oak forest and prairie containing native plants and animals, plus another 20 acres of greenbelt. There are four miles of dirt trails and four miles of paved trails. Also, the Preserve is one of the best bird-watching sites in DFW with nearly 200 species sighted.

On Tuesday, March 18 Will and I met at the Preserve around 10:00 am, and we were set up in a "Two Operator" mode by 10:30 am. Conditions were very windy that day, with gusts over 40 mph. The park has an excellent covered pavilion, and that pavilion and the heavy tree cover helped to block some of the wind.

Propagation was just fair that day, so we had to make several band changes during our 90 minute Activation. We operated SSB on 10 meters, 15 meters, 17 meters and 20 meters in order to make 46 POTA contacts. We only had one DX contact (Spain) during the morning, which was unusual considering the excellent propagation we've enjoyed over the past few months on 10 meters.

We utilized my Yaesu FT-991A transceiver, Will's POTA Performer 17 foot multi-band vertical antenna and my RadioWavz 20 meter dipole antenna during the morning's activities in the Forest Preserve.

It's always a lot of fun to get out into nature and Activate one of our Texas Parks. If you haven't made a Parks on the Air Activation yet, you might want to consider doing so this Spring or Summer. A POTA Activation is a great way to go out with friends to make contacts and to use your radios and antennas in a field setting.

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Winter Field Day 2025

By John Cheyney KF5PFP



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POTA Activation of US-3059

By John Cheyney KF5PFP



This year for Spring Break my wife and I took a short trip to Tyler State Park. The park is about 2 hours East of DFW on I-20 (including a stop at Buc-ee's in Terrell).

Tyler State Park is one of the smaller state parks, completed in 1941 by men from the Civilian Conservation Corp. It has a small lake and a combination of campsites, screened shelters, and cabins. It also has an extensive set of trails for hiking.

We had opted for a cabin. Each one of six is fully enclosed with a Queen bed, small refrigerator and microwave, a long wooden desk, and windows that open far enough to poke a PL-259 through. Each has a built-in heater/air conditioning unit. The bathroom/showers are in a separate building in the middle of the cabin area.



Unfortunately though, from an RF standpoint, the cabins are surrounded by hills that are high enough to block out the BuddiStick Pro vertical that I normally set up. We drove around the park and there were precious few places that weren't either in a bowl or wall to wall pine trees.

It was time to pull out my ARRL Field Day End Fed Half Wave antenna. This is a ~63 foot wire on a 49:1 UnUn kit that I built several years ago. It works well on 40M/20M/10M/15M, although 10M and 15M really need a tuner. The last time I tried to use it I couldn't get it to tune. Tearing it down revealed a solder connection that was disconnected. I fixed that, or at least I hoped I had.

The cabins are surrounded by massive pine trees. My wife and I identified a couple of possible paths and between the two of us we were able to get it horizontal and about 25 feet in the air.

I set up my IC-7100 later that evening, just to make sure everything would work. After hooking up the laptop and getting both Winlink and WSPR connections, I decided to try something different and see if I could get an activation on FT-8.

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POTA Activation of US-3059

By John Cheyney KF5PFP



When I first started in HF I had a small antenna that I had to put up and take down every time I got on the air. FT-8 was my primary mode for making contacts. As I have gotten better equipment, and have started learning CW I haven't done a full FT-8 session in a while. And I have never done a POTA activation on FT-8. But it was getting late in the day and I didn't want to start an activation and not at least get 10 contacts. I thought I would have better luck on FT-8.

The start was not auspicious. I began on 20M, which was a wall to wall signal. However, after about 15 minutes, I had only gotten one person to come back to me. I moved to 40M, which was busy but not that bad. Still, I wasn't getting the traffic I needed. So I decided to call CQ and see what would happen,

Calling CQ POTA on FT-8 is just calling CQ on FT-8, except you put 'CQ POTA' at the front. I set it off and before I realized it I had created an actual, serious, FT-8 pileup. In 10 minutes I went from one contact to 10. I ended at 16. It was dinner time, and we were at the end of the UTC day, so it was time to move on. Thanks to the hotspot on my phone the log for day one was loaded. I pulled the coax through the window and closed it but left the antenna up for the next day.



I had initially expected that a Monday morning might be slow in POTA-land. I was wrong. It warmed up quickly so I moved outside to the picnic table outside the cabin.

For a POTA activation to be complete you have to have 10 contacts. Generally I start an activation by hunting. That gives me a chance to get my 10. It lets me make sure the equipment is working and assess what the bands are like. Ten contacts didn't take long. I worked until lunch, then we followed that up with a hike through the park. I grew up in Northeast Texas, which is very similar to this area. The pines are huge here, and the park is beautiful.

After we got back I made a few more contacts, just to add to the log. One of those was the IARC's very own John Moss KI5WRQ, who met me on 40M.

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POTA works off the UTC day. That means once you cross over 0000 UTC (1900 local after the time change) you get to start a new log and do a new activation. After dinner I moved everything back to the cabin. I was having issues keeping an internet connection. I can log on paper with the best of them, but by now I was tired and I had met the quota, so it was time to call it done and dusted.

All in all this was a great set of activations. Being in the park allowed my wife and I to do other things in between stints on the radio. The park is gorgeous. Texas may not be the best State in any number of categories, but our parks system is amazing. I have never had a bad experience at a Texas state park.

I have to say that although I'm not an FT-8 hater, the POTA activation left me a little disappointed. I met the goal, but a large part of what I enjoy about POTA is figuring out where people are from and talking to other activators. With FT-8 you don't get that. Not saying I won't ever do one again, but it won't be my primary mode. The voice contacts were fine, although 20M POTA can be a beatdown. There were a decent number of people who were throwing out call signs on top of established contacts, which is not something I am used to. Still, it was a great time and I look forward to the next one.

Technical Topic

Getting Started with Amateur Radio Satellites

Part 5: What equipment do I need – Radios.

By Tom Schuessler, N5HYP

Last month, I talked about antennas needed to be successful getting started with amateur radio satellites, especially the FM satellites, in this article, we will talk about radios.

At this moment, all functioning satellites for amateur use, utilize either 2 Meter or 70 Centimeter bands. Specifically, 145.8 through 146.0 MHz, or 435.0 through 438.0 MHz. So just as you need antennas that can both transmit and receive on those bands, you need radios that can do the same.

Today, we will talk about radios that work well for the FM satellites. There are a lot of options out there, but some are better than others, and for various reasons. Not all transmitters and receivers are created equal. There are also many combinations of radio types, that can be used in a variety of settings.

Handheld radios are popular for portability and convenience. Mobile radios might allow you to have more power out than an HT, but with additional weight for both radio and battery.

The optimal radio, whether it is an HT, or mobile rig, should be able to operate in full duplex mode. That means it is capable of transmitting on one amateur band, while receiving simultaneously on the other. Full duplex capability is desirable so that you can hear whether the satellite is hearing you, that you are not getting stomped on by another station, or that you are not stomping on someone else. (We will look at satellite etiquette in a later installment).



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Technical Topic

Getting Started with Amateur Radio Satellites

Part 5: What equipment do I need – Radios.

By Tom Schuessler, N5HYP



An example of a handheld radio that does this nicely, is the Kenwood TH-D72, (No longer in production). The D72 has a rather sensitive receiver and has sufficiently high output power of 5 watts, when connected to an external power source. It also is not as prone to receive de-sense by its own transmitter, (More on de-sense later on in this article). An additional benefit of a radio like this, is that if you have a single feed antenna, like the Elk (Discussed last week), a single antenna connection on both ends works great. Dual feed antennas can be fed through a duplexer that acts like a band pass filter for both bands and splits the signals appropriately for each band feed.

Alternatively, you can use two radios, one will be for transmit, and the other for receive. This configuration does need the diplexer for single feed antennas, but can stay separate for dual feed antenna systems. Hand holding two radios and an antenna, can be cumbersome, but there are creative ways to attach one of the two radios to something other than your hand.

There are a number of V/U mobile radios that have full duplex capability. The Icom 2710, 2720 and 2730 radios do full duplex rather nicely as is the Kenwood V710 and others in that lineage. The Yaesu FT8800/8900 series, also not in production, work nicely.

You should look for a radio that is easy to program as you will have to tune the UHF band to compensate for the +/- 10KHz of doppler shift to the transmit or receive signal to compensate for the satellite frequency.



You can use a radio that does not have full duplex options allowing receive while transmitting. The radio I got started working satellites, an Icom W32a which had full duplex capabilities, but would not transmit in the 435-438 MHz range at all without a non-supported by the manufacturer modification. That radio also had lousy de-sense of the 435 receive. I spent the first 7-8 years chasing satellites by using the W32a as a single, non full duplex radio. I am sure I stomped on folks and they to me without my hearing. The uber-sensitive receiver was its undoing for full duplex.

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Getting Started with Amateur Radio Satellites

Part 5: What equipment do I need – Radios.

By Tom Schuessler, N5HYP



What then, you ask, is de-sense? That is the condition where the strength of a transmitted signal, impairs a receiver from being able to hear. Many of us have seen this at large ham gatherings, where multiple folks are using HTs all on different frequencies on the same band you are using. The radio's front end gets "Swamped" by the signals it is hearing which cuts the sensitivity of the receiver. In the case of satellite operations, if the transmit frequency is on 2 meters, a rough 3X multiplication of the transmit frequency, puts the third order harmonic right in the middle of the UHF satellite receive band. As an example, 45.9 would yield a third order harmonic at 437.7 which is nicely in the satellite sub-band. If that were your uplink/downlink pair, or even close to that, that would not work at all, unless the front end is well designed. Some receivers are susceptible to even just the presence of a strong signal on the band, and that can make that receiver at the UHF frequency unusable. Also always remember that satellite work is weak signal work, and so many times, the best receiver wins.

Patrick Stoddard, WD9EWK, has compiled a current listing of all radios, past and present, that are capable of full duplex operation, or limited versions, with caveats. You can find it on his QRZ page, but I am publishing part of it here. Perhaps you have one or more of these radios in your possession and might realize that you too can maybe do this.

Amateur handheld transceivers capable of cross-band full-duplex operation for satellites

Make	Model	CTCSS Tone Encoder?	Comments
Alinco	DJ-580	Yes	
Alinco	DJ-582	Yes	
Alinco	DJ-G5	Yes	
Alinco	DJ-G7	Yes	2m/70cm/1.2 GHz – OK for U/V or L/V full-duplex, may be OK for L/U, but not V/U
Anytone	TERMIN-8R	Yes	OK for U/V full-duplex, not V/U
		UT-50 or UT-51 required	
Icom	IC-24	Yes	IC-24AT (USA version) may require mod for UHF transmit < 440 MHz
Icom	IC-32	Yes	IC-32AT (USA version) may require mod for UHF transmit < 440 MHz
Icom	IC-W2	Yes	IC-W2A (USA version) may require mod for UHF transmit < 440 MHz
Icom	IC-W31	Yes	IC-W31A (USA version) requires mod for UHF transmit < 440 MHz
			IC-W32A (USA version) requires mod for UHF transmit < 440 MHz. Older IC-W32As OK for both V/U and U/V full-duplex; later IC-W32As OK only for U/V full-duplex (*)
Icom	IC-W32	Yes	70cm/1.2 GHz, IC-X2A (USA version) may require mod for UHF transmit < 440 MHz
Icom	IC-X2	Yes	
Icom	IC-Z1	Yes	IC-Z1A (USA version) requires mod for UHF transmit < 440 MHz
Kenwood	TH-75	Yes	TH-75A (USA version) requires mod for UHF transmit < 438 MHz
Kenwood	TH-77	Yes	TH-77A (USA version) requires mod for UHF transmit < 438 MHz
Kenwood	TH-78	Yes	TH-78A (USA version) may require mod for UHF transmit < 438 MHz
Kenwood	TH-79	Yes	TH-79A (USA version) may require mod for UHF transmit < 438 MHz
			internal TNC. Older versions of the TH-D7A (USA version) may require mod for UHF transmit < 438 MHz. G version supports 9600bps packet
Kenwood	TH-D7	Yes	
Kenwood	TH-D72	Yes	internal TNC (1200/9600bps) & GPS
Standard	C528	Yes	C528 (USA version) may require mod for UHF transmit < 440 MHz
			2m/70cm/1.2GHz, C568 (USA version) may require mod for UHF transmit < 440 MHz
Standard	C568	Yes	
			70cm/1.2 GHz, C628 (USA version) may require mod for UHF transmit < 440 MHz
Standard	C628	Yes	
Wouxun	KG-UV8	Yes	OK for U/V full-duplex, not V/U (for all versions)
Wouxun	KG-UV9	Yes	OK for U/V full-duplex, not V/U (for all versions)
Yaesu	FT-470	Yes	
Yaesu	FT-51R	Yes	
Yaesu	FT-530	Yes	

(*) Newer IC-W32As may be able to handle V/U full-duplex, depending on the height and downlink power of the satellite. On higher passes using the new ISS cross-band V/U repeater, it was possible to hear the downlink while transmitting. The ISS cross-band V/U repeater transmits at 5W in its ~400km orbit, compared to SO-50's 250mW in its ~800km orbit.

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Technical Topic

Getting Started with Amateur Radio Satellites

Part 5: What equipment do I need – Radios.

By Tom Schuessler, N5HYP



Amateur VHF/UHF mobile transceivers capable of cross-band full-duplex operation for satellites

Make	Model	CTCSS Tone Encoder?	Comments
			DR-570E requires EJ-5U tone board. CTCSS tone encoder included in DR-570T
Alinco	DR-570	(see comments)	
Alinco	DR-590	Yes	
Alinco	DR-599	Yes	
Alinco	DR-600	Yes	
Alinco	DR-605	Yes	
Alinco	DR-610	Yes	
Alinco	DR-620	Yes	Optional EJ-47U module for digital voice (ITU-TV.32 - *not* compatible with D-Star, DMR, or C4FM). Optional EJ-50U TNC module for packet
Alinco	DR-635	Yes	Optional EJ-47U module for digital voice (ITU-TV.32 - *not* compatible with D-Star, DMR, or C4FM). Optional EJ-50U TNC module for packet. Optional EJ-47U module for digital voice (ITU-TV.32 - *not* compatible with D-Star, DMR, or C4FM). Can suffer desense with V/U satellites, depending on transmit power & antenna location. *TNC mode* using DR-735's data port does not support data speeds > 4800bps.
Alinco	DR-735	Yes	
Heath	HW-24		
Icom	IC-2340	Yes	IC-2340H (USA version) may require mod for UHF transmit < 440 MHz
Icom	IC-2350	Yes	IC-2350H (USA version) may require mod for UHF transmit < 440 MHz
Icom	IC-2710	Yes	IC-2710H (USA version) may require mod for UHF transmit < 440 MHz
Icom	IC-2720	Yes	
Icom	IC-2725	Yes	European version of IC-2720 sold in other markets
Icom	IC-2730	Yes	
Icom	IC-2800	Yes	
Icom	IC-2820H	Yes	Optional UT-123 module for D-Star. Capable of cross-band full-duplex in FM only.
Icom	IC-3230	Yes	IC-3230H (USA version) may require mod for UHF transmit < 440 MHz 2m/70cm/1.2 GHz, USA version may require mod for UHF transmit < 440 MHz
Icom	IC-Delta100	Yes	
Icom	IC-E2820	Yes	European version of IC-2820 sold in other markets. Optional UT-123 module for D-Star. Capable of cross-band full-duplex in FM only. Includes D-Star & internal GPS. Capable of cross-band full-duplex in FM only (sub VFO mutes if it receives D-Star while transmitting from main VFO using D-Star). Audio recorder (with SD card) only records main VFO.
Icom	ID-5100	Yes	
Kenwood	TM-721	Yes	TM-721A (USA version) may require mod for UHF transmit < 438 MHz
Kenwood	TM-731	Yes	TM-731A (USA version) may require mod for UHF transmit < 438 MHz
Kenwood	TM-732	Yes	TM-732A (USA version) may require mod for UHF transmit < 438 MHz
Kenwood	TM-733	Yes	TM-733A (USA version) may require mod for UHF transmit < 438 MHz
Kenwood	TM-741	Yes	TM-741A (USA version) may require mod for UHF transmit < 438 MHz
Kenwood	TM-742	Yes	TM-742A (USA version) may require mod for UHF transmit < 438 MHz
Kenwood	TM-941	Yes	2m/70cm/1.2 GHz, TM-941A (USA version) may require mod for UHF transmit < 438 MHz
Kenwood	TM-942	Yes	2m/70cm/1.2 GHz, TM-942A (USA version) may require mod for UHF transmit < 438 MHz
Kenwood	TM-D700	Yes	Internal TNC
Kenwood	TM-D710	Yes	Internal TNC, G version also includes internal GPS
Kenwood	TM-V7	Yes	TM-V7A (USA version) may require mod for UHF transmit < 438 MHz
Kenwood	TM-V708	Yes	TM-V708A (USA version) may require mod for UHF transmit < 438 MHz
Kenwood	TM-V71	Yes	
TYT	TH-7800	Yes	Radio looks similar to Yaesu's FT-8800 or FT-8900

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By Tom Schuessler, N5HYP



		2 FTS-8 modules required	A separate FTS-8 module is required for CTCSS encode/decode on each band
Yaesu	FT-4700		
Yaesu	FT-5100	Yes	
Yaesu	FT-5200	Yes	
Yaesu	FT-6200	Yes	70cm/1.2 GHz
Yaesu	FT-8000	Yes	
Yaesu	FT-8100	Yes	
Yaesu	FT-8500	Yes	Most controls on FS-10 "Smart Controller" hand mic
Yaesu	FT-8800	Yes	
Yaesu	FT-8900	Yes	Quad-band FM mobile (10m/6m/2m/70cm)
Yaesu	FTM-150	Yes	OK for U/V full-duplex, not for most V/U (high ISS passes, when ISS is overhead, are OK for full-duplex)
Yaesu	FTM-300	Yes	Internal TNC for APRS, GPS, & C4FM/System Fusion digital voice
Yaesu	FTM-350	Yes	Internal TNC for APRS, GPS
Yaesu	FTM-400	Yes	Internal TNC for APRS, GPS, & C4FM/System Fusion digital voice
Yaesu	FTM-500	Yes	Internal TNC for APRS, GPS, & C4FM/System Fusion digital voice

Optional band modules for some Kenwood mobiles (TM-741, TM-742, TM-941, TM-942) available for 10m, 6m, 220 MHz, & 1.2 GHz

Next month, pass prediction.

73, Tom, N5HYP

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IARC Makes a number of donations

The IARC has donated to local nonprofit groups for many years. At our February 2025 meeting we voted to donate \$5,000 each to three groups:

Irving Cares - This group provides focused assistance for Irving residents to address a financial crisis. Services include:

- Financial Assistance
- Food Pantry
- Invest in Yourself (childcare, education, and employment services to get you back to work)
- Employment Services (learn job search techniques, interview skills, and resume preparation)
- Education
- Special or seasonal opportunities



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IARC Makes a number of donations



Many Helping Hands - Changing lives in the Irving homeless community, both sheltered and unsheltered, through Christian based, compassionate, relational and personal service.

- Showers
- Laundry
- Meals

The Many Helping Hands Day Center is the only day center in Irving that provides services for homeless individuals and some families. The center is open on Mondays, Wednesdays and Fridays from 10am till 2pm and stays open till 5pm on inclement weather days. We currently serve an average of 30+ people per day. We transport from one designated pick-up place in South Irving, or our clients walk to the facility. Each week at our Thursday night meal, 20+ volunteers work together to provide a hot meal and meet special needs for our clients. We have free healthcare on the Parkland bus, and provide bus passes to get needed prescriptions etc. Every other week we set up a clothing closet for those who can't get to the Day center for needed items. Each week we serve 85+ people a hot meal on Thursday evening.



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IARC Makes a number of donations



- The Main Place - “a retail store without a cash register”
 - We serve those in need which include homeless teens in school and their families, as well as victims of domestic violence and sexual abuse, fire, flood, hurricanes, and other tragedies which make them at risk for homelessness.
 - The Main Place is recognized as the main place for clothing needs by other local nonprofit organizations. Our clients are referred by those who are most knowledgeable of the whole person and their situation: the school counselor, the case worker, and the social worker. We do not qualify our clients, they do.
 - The thread that binds all our programs is our focus on raising the self-esteem of our clients. The Main Place is unique; there is no template in the U.S. We do not simply provide new and nearly new clothing. The Main Place teaches how to dress for success by providing instruction on modesty and the proper clothing to wear for different occasions. We instruct clients as to which styles enhance their body type and which colors are their most complementary. As we put together different combinations, the client learns to build a wardrobe. We serve all clients as though they are the clientele of the personal shopper at Neiman’s or Nordstrom’s.
 - The Irving Amateur Radio Club is proud to be a donor to these three great local nonprofits. Below are photos of club officials delivering donation checks to these groups in March.



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Photos from Irving Hamfest March 1



Master of Ceremonies Bill Byrom N5BB giving out prizes. His assistant is Virginia Smith NV5F (visible through the prize barrel)

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Grand prize winner Tim Elwell KG1GEM with his new Yaesu FT-710



Photos from Irving Hamfest March 1



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From the Desk of the editor



Some useful ham radio websites.

- 10-10 Organization- <https://ten-ten.org/>
- QSL - <https://qsl.net/>
- QRZ - <https://www.qrz.com>
- QTH - <https://qth.com/>
- Gigaparts store - <https://www.gigaparts.com/>
- Ham Radio Outlet- <https://www.hamradio.com/>
- OMISS - <https://omiss.net/>
- Icom America - <https://icomamerica.com>
- Yaesu - <https://yaesu.com>
- Kenwood USA - <https://kenwood.com>

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Let me take the opportunity to thank all our contributors to the current and past editions of the IARC club newsletter. I am always looking for articles that are ham related for the newsletter.

If you would like to contribute to the newsletter, please email your contribution to me at jerry.aberdeen@gmail.com, with the subject "IARC Newsletter and your callsign" e.g. IARC newsletter -KB3RWT

Going forward, I would like to have all articles for the newsletter sent to me on or before the Sunday of the week in which our in-person meetings are held., but I will accept articles as late as 8pm on the Tuesday before the meeting. This gives me time to organize, create and send out the newsletter in a timely manner. Thanks.

De KB3RWT