

IRVING AMATEUR RADIO CLUB

Serving Amateur Radio Since 1955

WA5CKF REPEATERS:

146.72 PL 110.9/TSQL 110.9

224.40 PL 110.9/TSQL 110.9

442.675 PL 110.9/TSQL 110.9



December 2021

December Club Open House

The December meeting will be an Open House on December 9th, 2021, from 6:30 pm to 8:30 pm at Betcha Bingo 2 in Irving. The address is 2420 W. Irving Blvd. See the details in the President's Corner below.

President's Corner

Ken Hansen N2VIP

Happy Holidays!

As you should already be aware of, we are not having a "regular" club meeting this month, instead we are trying something different – we are planning an "Open House" at the club shack at Betcha Bingo 2, on December 9th, from 6:30 to 8:30 PM. This will be a casual, in-person event, with no set agenda – our November meeting minutes and Treasurer Reports will be approved at our January, 2022 General Meeting (next month). The November Treasurer Report will be included in this newsletter.



Open House

Our Open House will run from 6:30 to 8:30 PM on Thursday, and we will have some light snacks - cookies, drinks, fruit and raw vegetables w/dip, and possibly a couple pizzas, but I want to be clear, this isn't a dinner party, there will be light snacks only. I hope you can stop by, it would be nice to see each other in-person again.

EOC Repeater Site Project

As noted elsewhere in the newsletter, we were donated two full-size (42U tall, a "U" is 1.75", also known as 1 rackspace) racks for the new repeater site. In addition, Andrew Koenig, KE5GDB, was able to re-tune a scrap commercial UHF duplexer (that the club will purchase from Dennis Riise's estate) to our 442.375 repeater "pair". The donated racks and re-purposed UHF duplexer will free-up well over \$1,000 to be invested in a higher-grade duplexer for the main UHF pair 442.675, and the 220 repeater. We expect the club antennas to be installed on the tower sometime in December, and hopefully the shed that will house the repeaters will be ready to be moved in to in January.

Shiny New Toy

From time to time I like to highlight my latest toy, and this month I want to share a few words about my new SHARI PiHat, a raspberry pi-based AllstarLink node. AllstarLink is a tool for linking remote users to repeaters and/or each other over the public internet. The SHARI PiHat (<https://hamprojects.info/shari-pihat/>) is a so-called "pi hat" designed to attach to the expansion bus on a Raspberry Pi and provides a low power VHF (2m) or UHF (70cm) FM radio that along with a custom-made OS image creates a bridge from any analog FM radio to a distant repeater. The system is based on DTMF (Touch Tones) controls, and most any modern HT with DTMF capabilities can control it. The SHARI PiHat ships either assembled, or as a kit – I opted for the kit, which cost just under \$90 shipped, all I needed to supply was a Raspberry Pi 4 (\$35), power supply (\$8), and a 16 Gig or greater MicroSD card (\$8). Aside from a bit of drilling, and a little soldering (nothing too complex), the kit went together in a couple hours.

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John Cheyney KF5PFP

General/Business Meeting:
Nov 18 2021 @ 7:00 pm

Weekly Meeting Nets:
7:00 pm each Thursday on
the WA5CKF repeaters.

Contact Us

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An assembled SHARI PiHatU - the kit includes the case

Several area clubs have attached AllStarLink nodes to their FM repeaters, allowing their members and visitors to experiment with AllStarLink without investing in any new equipment. The Richardson Wireless Klub (<https://www.k5rwk.org/repeaters/>) has a couple AllStarLink-enabled repeaters, as well as a hub, tying them all together. AllStarLink is, in my opinion, a logical evolution of Echolink, and you can find more information at the AllStarLink website (<https://www.allstarlink.org/>).

Cheap Radios and the 2021 Irving Holiday Parade

As you may recall, this year for the Holiday Parade the organizer (John Cheyney, KF5PFP) decided to try using a 2 meter Simplex frequency, with a fall-back plan to use our 2 meter repeater if it was unworkable. By and large the simplex experiment worked well, we were able to do what we needed to do, operating over parade route, using a simplex frequency (146.580 MHz). For this event, I decided I want to try out my “new and improved” Baofeng HT, the GT-5R (<https://www.radioddity.com/products/baofeng-gt-5r>). It looks just like any other Baofeng UV-5R HT, but, it has cleaned-up the spurious emissions the earlier models put out and hard-limited the transmit ability to just the US Amateur Radio bands (144-148 MHz and 420-450 MHz), but they can receive outside the Amateur Bands (NOAA Weather, public service, FRS/GMRS) but will not transmit on any of the extended frequencies. In a word, the GT-5R failed me – the receiver seems weak, it was very hard to consistently hear the other stations along the parade route, though I could reliably work the club 2 meter repeater. To properly participate in the event I had to put the Baofeng radio aside and deploy my favorite HT, the now discontinued TH-D74 tri-band D-Star HT. It worked flawlessly, I was able to ear and be heard by all the parade stations, and it was a breeze to put it in simplex FM mode for the event. Of course, a \$500+ HT is overkill for an event like this, but the Kenwood is my go-to HT, and I was glad I brought it along.

I'll provide more information about this Baofeng if anyone's interested, but based on my recent experience, you should only consider a Baofeng HT like the GT-5R for repeater-based operation, not simplex, and while the price is attractive (with an online coupon, the radio costs \$25 on Amazon), it was absolutely not an option for the parade.



The Baofeng GT-5R HT

You Get What You Pay For

I recently discovered that the old saying is true – “You Get What You Pay For.” In my recent tinkering with Raspberry Pi computers I’ve had occasion to purchase several MicroSD cards from varying brands/manufacturers, and I’ve come to learn that the Microcenter house-brand MicroSD cards are, at best, hit-or-miss, with far too many of the cards offering only a fraction of their stated performance specifications, meaning the performance of applications running on the Raspberry Pis with these cards suffers dramatically. High-performance name-brand MicroSD cards are consistently high-performance devices and only cost a few dollars more. (32 Gig Microcenter MicroSD card is \$3.99, the Samsung 32 Gig MicroSD is \$7.99, cheaper in multi-packs)

As noted previously, the low-cost Baofeng GT-5R HT while still a tremendous bargain at \$25-ish, has severe limitations, and if you have one stuffed in a “go bag” or other emergency you may want to consider swapping it out for another radio. I’d recommend the Yaesu FT-60 as a good, solid, dual-band FM HT, but it runs about \$155 at HRO, but it is a known-quality radio, virtually indestructible, and a great investment.

Looking Forward

While traditionally people like to make resolutions for the new year, I have been thinking about some goals for the Irving Amateur Radio Club in the coming year, we can discuss these ideas and goals in January, but for now, I’d like everyone to start thinking about what it is they want from their membership in the IARC, and what they are willing to contribute to help achieve those goals. For example, I’d like to see more member content in the newsletter, ideally from every member – even if only a picture of your latest project, a write up on a new antenna you are trying out, a new operating mode you are exploring, tell us about a new (or new-to-you) radio you just got, etc. What activities would you like to see the club participate in, either in the community or for our members. It is my goal to make 2022 a transformational year for the Irving Amateur Radio Club – I want to focus on activities, increasing membership, find more ways to give back to our community, and so on. I’m very excited to see where this club can go in the coming year, I hope you’ll bring your ideas to group and let’s see where we can go!

If I don’t see you at the Open House this Thursday, have a very Happy Holiday season, and hopefully we can start holding in-person meetings in 2022.

Irving Christmas Parade

John Cheyney KF5PFP

Members of the Irving ARES/RACES team partnered with the City of Irving Office of Emergency Management to provide communications assistance for the Irving Christmas Parade. With Tom Schuessler N5HYP providing net control the members operated Simplex on 146.58.

Back Row

-Ken Hansen N2VIP

-Billy Geer KA5OZC

Front Row

-Bill Byrom N5BB

-Jerry Aberdeen KB3RWT

-Tom Schuessler N5HYP (Net Control)

-John Cheyney KF5PFP (Coordinator)

Not Pictured

-Susan Corona KD5UQA

-Mark Corona KD5TTT

-Ton Tabb KC5HPO



Yaesu FT-60r, a solid workhorse dual-band FM HT.



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Club Update

Bill Byrom N5BB

IARC receives two racks for our new repeater site.

They were too big to fit under the Christmas tree (see photo), but Santa and his elves (Ken Hansen N2VIP, Andrew Harmon KD5RKO, Tom Schuessler N5HYP, and Bill Byrom N5BB) delivered them in a U-Haul truck on Saturday morning, December 4. They are very large and strong (heavy), so should easily hold all of our planned repeater gear at the new Beltline/Hwy161 site being set up in January. The price was right (zero) so we are considering improving some other repeater site items and hope to stay pretty much within our budget. We are ordering additional equipment (mainly controllers and duplexer cavities) to complete our project. We already own the necessary repeaters.



IARC funds second yearly ISF (Irving Schools Foundation) scholarship

We have delivered the \$1000 payment for the 2022 spring scholarship. It is open to any Irving public school student. The club will decide on the recipient in a few months after we receive the applications filtered by ISF.

2022 Micro-Grant project

The Micro-Grant committee will soon meet to finalize our continuing project. We have been donating funds totaling around \$8,000 each year to several non-profit Amateur Radio clubs in North Texas each year. We hope to publicize the 2022 project before Christmas.

Repeater update

Old site: The club 146.720 MHz 2m and 442.675 MHz 70cm repeaters are currently linked. The 222.400 MHz repeater works, but it is noisy so not linked to the other two. The controller messages (typically 4 to 6 per hour) have been re-enabled. Please contact Bill Byrom N5BB at n5bb@byrom.net if you have any questions or concerns. We plan to leave the old site repeaters in place as backups. We should be able to remotely switch between the new and old site repeaters on any of our three primary analog FM coordinated channels.

New site: When the new site is activated early in 2022, we plan to initially run our three main analog FM repeaters (146.720, 222.400 MHz, and 442.675 MHz) from the new site. We also plan to run a new Yaesu Fusion digital/analog auto-select repeater on our 442.375 MHz coordinated frequency from the new site.

EchoLink: We plan to leave the current 146.720 MHz 2m EchoLink setup at the N5BB home location for the next few months. The new site should have a good internet network setup, and our goal is to set up a local EchoLink node there, possibly using an Allstar node.



Ham Radio via APRS on the Long Drive to Boston

Tom Schuessler N5HYP

Holly, my daughter Anna, and myself decided that we wanted to visit our kids currently living in Boston for the Thanksgiving week. With all the uncertainties of traveling these days, and the potential for airline fiascos over such a busy time of the year we decided to drive the over 1500 miles each way. Katie and her husband Jordan have done this trip by car a number of times now since they moved so we figured we would have a go at it.

I own a Kenwood TH D72A dual-band handheld that has on-board GPS and APRS capabilities. Although I figured I would from time to time do some voice calls, I decided that I wanted to see how effective APRS was in tracking my travels.

Since I don't drive, I figured I would end up mostly in the back seat of the Rav4. Radio stuff would live back there with me. I used a compact sized dual band mag mount antenna, fed by the hand held, but augmented by a little 20 watt dual band amplifier I picked up at the Cowtown Hamfest several years ago. I did not want to tie up the cigarette lighter plug for the radio and don't have any permanent power connections in there. I decided to power the amp, and also my radio, via my Bioenno Power Lithium Iron Phosphate 20 Amp Hour battery. This battery has served me well for field day operations on satellite and even multiple hours of SSB HF. Since the drive was going to take close to three days of travel time, I was curious if the battery would handle the every two minute beacons, and other voice communications, without running out of juice before reaching destination, and a recharge.

One of the cool features of APRS is that your packet location information, gets picked up by a local digipeater, and in many cases, relayed to special setups known as IGates.

IGates relay via the Internet to a network of worldwide APRS servers, and the data can be plotted on maps and thus, one can see all the APRS connected devices in your general area, or around the world. This link, <https://www.jpole-antenna.com/2018/09/17/introduction-to-aprs-the-automated-packet-reporting-system/> has a good basic explanation of how it works. For a more technical explanation from Bob Bruninga, WB4APR, the father of APRS, visit his site, <http://aprs.org/>, which has tons of information on the various uses and methodologies of the protocol.

APRS.fi is the predominant mapping app for computers and smartphones. It takes all the reported position information and plots it for display. As in the picture below. If you click on any of the icons noted, you can get a display of information derived from the transmitting station. In the case of a mobile like me, you get position, directional bearing, speed at the time of transmission, a short status message, a code that displays a standardized icon and more. For APRS weather stations you get current statistics and even graphing of those statistics over the last 24 hours. An alternative web address for viewing and searching for APRS stations is <https://www.aprsdirect.com/>.



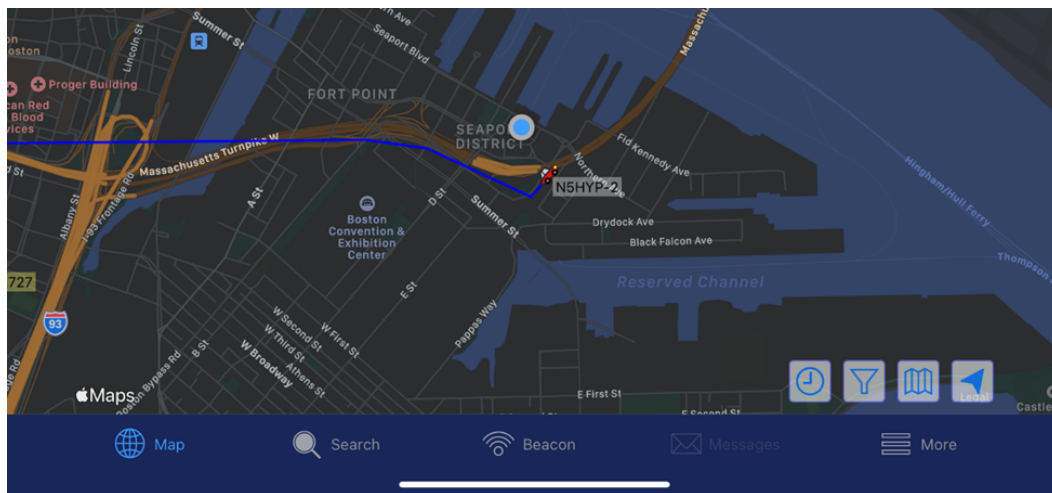
Amp, Battery, radio and my power splitter/volt meter in plastic box in back floorboard.

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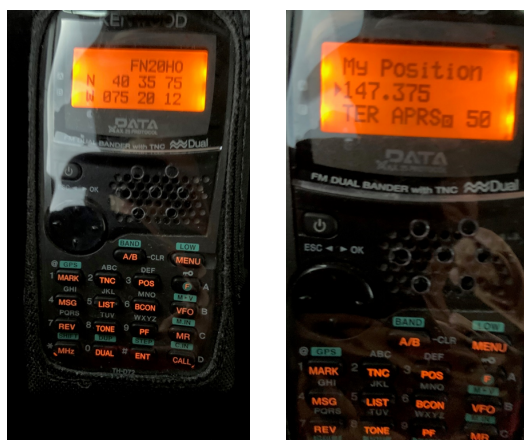


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Below, our last position packet in Boston before arrival.



The D72a's built in GPS provides the positional data, or you can connect an external GPS or even an external packet TNC. After turning on the internal TNC, and after the GPS gets a lock, the radio will beacon out your position. If heard and the radio hears the ack from the nearby Digipeater, you will see validation on the screen.



So how good was coverage traveling across the country. Decent in the metropolitan areas, as one would expect, but spotty in places like Arkansas and the hilly parts of Tennessee. Of course we only drove Interstate highways. I found coverage surprisingly good in central Virginia and again in Connecticut and Massachusetts.

To properly configure this radio by hand takes navigating a number of menus. Most of which work very straight forward, but there were a few that caused me problems. I had programmed some "Status messages" into the radio via my PC software, and accidentally left a message saying "Net control Irving Christmas Parade", selected. I could not figure out in the menu, how to change that message. N5BB helped me out by sending me a link to the special manual for Kenwood APRS operation. However, even though I eventually got it changed to a more generic message, APRS.fi continued to show my wrong message.

I did have several people who I told about my APRS trek, following our travels and that was kind of fun.

My car was outfitted with my shortened dual band antenna and I thought that may have limited my ability to receive other stations or beacons. Knew I needed the short antenna because in Boston, we would be parking in a parking garage and did not want to be bending the tall antenna while driving inside.



Since the D72a is a true dual band radio, I could look for voice repeaters on the "A" band while sending APRS packets out the "B" band. Had some nice conversations in Connecticut, Tennessee and near Little Rock, but mostly stuck to APRS. An exception was attempting a few satellites passes while in the car. The ISS crossband repeater when on, is a pretty strong downlink, and the 20 watts out made the trip up well. AO-91 however, with it's much lower 600 MW power output, was much harder to hear, so I only made one legit contact on that bird. If you cannot hear the downlink clearly, you should never transmit as you will probably QRMing someone elses contact attempt. Antennas with directional gain are still the preferred method of working satellites, but it can be done from a mobile setup.

It was fun trying something new on this trip. Of course, I spent much more time conversing with my family than on the radio. It was nice to just let the thing beacon out every one or two minutes, and see my track grow on the web on my phone.

I mentioned the Bioenno Power LiFePo battery. I was again very pleased. The voltage output of the battery never dipped below 13 volts. I ran it from Friday evening until Sunday evening on the way out, (Minus sleep periods at the hotels), and for three full days on the way back. Only recharged the battery at each end of the trip.

I love this hobby as there are always new aspects to experiment with. Do some experimentation of your own the next trip.

Irving ARES/RACES Report November 2021

Billy Geer KA5OZC

Total number of ARES members: 12

Change since last month: (-) __1__ or (+) _____ or same: >_____

Local Net Name: Irving RACES/ARES

Total sessions: 4

NTS liaison is maintained with the: DFW Net

Number of ARES drills, tests and training sessions this month: 4

2 Dallas Training

1 Winlink ARES/Emcomm Exercise

Person hours: 36

Number of ARES public service events this month: 0

Person hours: 0

Number of ARES emergency operations this month: 0

Person hours: 0

Total number of ARES operations/activations this month: 4

Total Person hours: 36

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City of Irving Siren Monitoring Update

John Cheyney KF5PFP

The Irving RACES/ARES Team and Irving ARC members continue to assist the Office of Emergency Management (OEM) by monitoring the monthly warning siren tests. Members go to the location of a siren for the test and report the results on the IARC 2 meter repeater. Results are collected and sent to the OEM for review.

The chart below shows the results since we started in August.

The next test will be Wednesday 5 January 2021 at 01:00 pm. For more information please contact Billy Geer KA5OZC at wgeer@verizon.net or John Cheyney KF5PFP at jjcheyn@gmail.com.

Siren #	Site	Address	Type	Most Recent
1	Fire Station 5	Shady Grove & Glenwick (1230 Glenwick)		08/01/2021
2	West Park	530 Davis Drive	508	09/01/2021
3	Fire Station 2	Story & Irving Blvd. (1306 E. Story)	508	09/01/2021
4	Fritz Park	312 Vilbig	2001	12/01/2021
5	Lively Park	909 N. O'Conner	2001	
6	Sunrise Park	Loop 12 & Union Bower (1809 E. Union Bower)	508	
	Twin Wells Park	7	EOS 612	08/01/2021
8	Police Fire Training Academy	2603 Esters Rd.	508	
9	Carbon Rd.	2900 Carbon Rd.	508	08/01/2021
10	Victoria Park	2800 W. Northgate Drive	508	09/01/2021
11	Walnut Hill & Brangus	1718 W. Walnut Hill Ln	EOS 612	
12	Fire Station 4	3303 N. MacArthur Blvd.	508	08/01/2021
13	O'Conner	O'Conner & Northgate	508	09/01/2021
14	Northgate & Carl Rd.	1203 E. Northgate Dr.	EOS 612	
15	Valley View Rd.	Valley View Ln. South of SH 183	508	
16	Fire Station 11	6200 Love Dr.	2001	
17	Las Colinas Elementary School	2200 Kinwest Pkwy	508	12/01/2021
18	NW Water Tower	8516 Esters Blvd.	2001	
19	Valley Ranch Parkway	9830 W. Valley Ranch Parkway	EOS 612	
20	Ranch View	800 N. MacArthur Blvd.	2001	08/01/2021
21	La Villita	W. La Villita Blvd & Riverside	508	12/01/2021
22	Peters Rd.	NE Corner of Peters Rd. at 183	EOS 612	
23	N. CIC Barn/PD North	5992 Riverside Dr.	F6	12/01/2021
24	Longhorn Dr.	6454 Longhorn Dr.	2001	08/01/2021
25	S. MacArthur Blvd.	MacArthur Blvd. & Hunter Ferrel	F6	10/06/2021
26	Convention Center	500 W. Las Colinas Blvd.	Eclipse 8	10/06/2021