

Nov 2020



K5PRK Newsletter



Social Media

[K5PRK.Net](#) [Facebook](#) [IO Group](#)

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Special Zoom Meeting Notice

Monday Nov 16, 2020 - 7:00 pm

**After action report on SET (Simulated Emergency Test)
Greg Evans – K5GTX**

Join Zoom Meeting

<https://zoom.us/j/93735735755?pwd=OVhubGR0b0k0MUUrSWQ5N051QkhZZz09>

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From the President

Repeater work update – Kipton Moravec, AE5IB

Short Takes – several items you may have missed

Including **Meals on Wheels** info

ARRL News and Info

Area Nets

Ham Radio References

Future Club Meeting Programs:

Dec 21	TBD – No 'normal' Christmas Party	
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NOTE: The monthly board meeting moved to the 1st Monday of each month starting Nov 2. Anyone may attend. A Zoom meeting announcement will be sent out a day before.

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November 15, 2020

Message from the President of the Plano Amateur Radio Klub

Ladies and Gentlemen: As 2020 comes to a close (and it cannot come soon enough), I renew my appeal to all of you to make your payment for your annual dues. Your dues are the income to this club which funds our operations. As a club, we are committed to enhancing our communications in Collin County with several capital projects. Although these projects cannot yet be positioned for lack of access to those select facilities, procurement and testing of the assets continues in preparation for eventual placement. Tony – W5ADC and Kip – AE5IB continue to work tirelessly in this regard. When you have a moment drop them a note and tell them thank you for their dedication.

State of the Club Finances: Let's have a quick review in managerial accounting and how your dues are expensed to approved operations and related expenditures. First and foremost, our largest monthly expense (at roughly \$55/month) is the AT&T bill to maintain the phone line for repeater operations. That produces an annual expense right at \$660. Our single event annual expenses are listed below.

- Liability insurance \$330 per annum
- Equipment Insurance \$330 per annum
- Christmas Party (normal year) \$600 per annum
 - Basically, whatever we got from HAMCOM funded this activity.
- Post Office Box maintenance and renewal is \$195 per annum.
- Total annual payments for these services produces a figure of \$855
- Total Operating expenditures is \$1515 per years for the club

Thus, we need about 71 dues paying members (at \$30/each) to fund the above-mentioned operations and expenses.

The SARS / CO-19 virus (or simply the 'RONA as I like to call it) has really pinched us heavily. With HAMCOM 2020 canceled, we lost some of this essential income (estimated at \$600 per annum). The loss of the 50/50 raffle also has hurt us too. Estimated lost annual income stands at about \$220. So, our income has been adversely impacted by \$820. Your Board of Directors has taken immediate and direct action. First, we are still having a Christmas raffle albeit at a greatly reduced financial commitment to \$150. Second, to preserve funds for further rainy days it has been agreed to that no future capital projects will be undertaken and funded when the bank account hits \$4000 in funds. Only approved projects with budgeted funds may continue. At a \$4000 watermark, and no additional income, our ability to operate is 21 months. Thus, the measures taken to date are both reasonable and prudent given current conditions and forecasts. As of this writing, HAMCOM 2021 is still on but subject to change. So, our need to be frugal remains the order of the day.

In conclusion, please remember to facilitate **payment of your dues on or before December 4, so you can be entered into the pool for the Christmas raffle and prizes.** Winners will be determined by electronic draw. You need not be present to win. A member of the Board will ensure your prize is delivered to your QTH personally.

One final plea... For those of us who remain employed with large corporations, please consider making an additional donation. Your generosity is most appreciated.

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Repeater Update November 7, 2020

Kip Moravec

It has been a busy few weeks.

We had a climb on October 24 where we installed all the digital equipment. We were able to talk to the Ubiquiti PowerBeam pointing towards RWK Palisades building, and we had a Ubiquiti LiteBeam pointing towards Greg, K5GTX.

The Ubiquiti Power Beam to Hillcrest and the Ubiquiti LiteBeam to MCP were installed, but our Ethernet cable was too short. The two Ubiquiti cameras were installed. When Tony W5ADC and David KG5NAV were on the way down we lost connection to the LiteBeam to K5GTX, and we lost a camera at some point. So we knew we needed another climb.

Tony and I went to Greg K5GTX house and set up the Ubiquiti LiteBeam. We pointed it in the general direction of the Prestige water tower. We got it talking to the internet and got ready for the next climb.

On Saturday October 31, Andrew KE5GDB and I went to the Prestige site with the intention to get the connection to Palisades working. They had done some work at the Palisades and we needed to make our configuration parameters match theirs. I was a little disappointed with the link speed, – about 30-34 Mbps, but we had a link! Looking at the cameras I was suspecting the cameras were overloading our slow Internet connection which is why we were only getting one feed out.

After seeing what Andrew KE5GDB did on the configuration, I knew the configuration at K5GTX was not right. On Friday, November 6, Andrew and I went to K5GTX and re-configured the LiteBeam and make it more secure. The first thing we noticed was the antenna was pointing about 90 degrees from where we left it. Greg figured out how to secure the mast better, but now we could not talk to the LiteBeam from the ground. We could see the power LED was on. We replaced the Ethernet connector and it started working. We re-configured it with a unique VLAN and finished.

I am not an expert on VLANs but it allows you to run multiple networks on the same Ethernet cable. From a router stand point it is great because you can have multiple Ethernet networks coming out one port. Because they are on different VLANs the traffic on one VLAN ignores the traffic on the other VLAN. So any pings or broadcast messages on one VLAN are not seen on the other. For example, the connection to K5GTX and to Palisades are on different VLANs, but share the same Ethernet cable from the top of Prestige to the router. But no packets from K5GTX can be seen by Palisades, and no packets from Palisades can be seen by K5GTX. The Ubiquiti devices only pass packets with their VLAN. While the 1000 Mbps wire has both VLANs, over the air has only the appropriate VLAN packets. Over the air data rates are much slower (30-140 Mbps) than wired.

Saturday Nov 7, we got a crew for another climb. This time Tony W5ADC and I climbed. We had a good crew downstairs to support. We have 3 Ethernet runs to the top (Violet, Green, and Yellow based on the color of tape on both ends). On the ends at the top we have a Ubiquiti NanoSwitch with POE, which allows us to have three devices on each cable and power them with power over Ethernet (POE).

Currently the Violet run had the link to Palisades and the link to K5GTX. You can see it in Figure 1.

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The Green Ethernet has the two Ubiquiti Cameras. This is in Figure 2.

And the Yellow Ethernet has the Ubiquiti links to MCP and Hillcrest. Each switch has room for one device expansion. For example we plan to have a link to McKinney on the Yellow Ethernet. Figure 3 shows the Yellow Switch, The Hillcrest PowerBeam and MCP LiteBeam Devices, and the Palisades Power Beam (wired to the Violet Switch)



Figure 1: Violet Switch and K5GTX LiteBeam



Figure 2: Green Switch and Two Cameras

The Yellow Ethernet had a bad connector. I immediately found the issue. The Ethernet was from about 12 years ago, and while the solid colors were Orange, Blue, Green and Brown, the ones that are normally Orange/white, Blue/White, Green/White and Brown/White were just white. Four of the 8 were the same color. You had to keep track of which color it was twisted with. And it was unshielded and flooded with silicon which made it difficult to work with.

We got the link to Palisades working better. After aligning in azimuth and elevation, we had a link speed of about 74 Mbps, up from 34 Mbps. The Link to K5GTX we were able to align, but the signal was not very good. We will have to align from the other side to improve.

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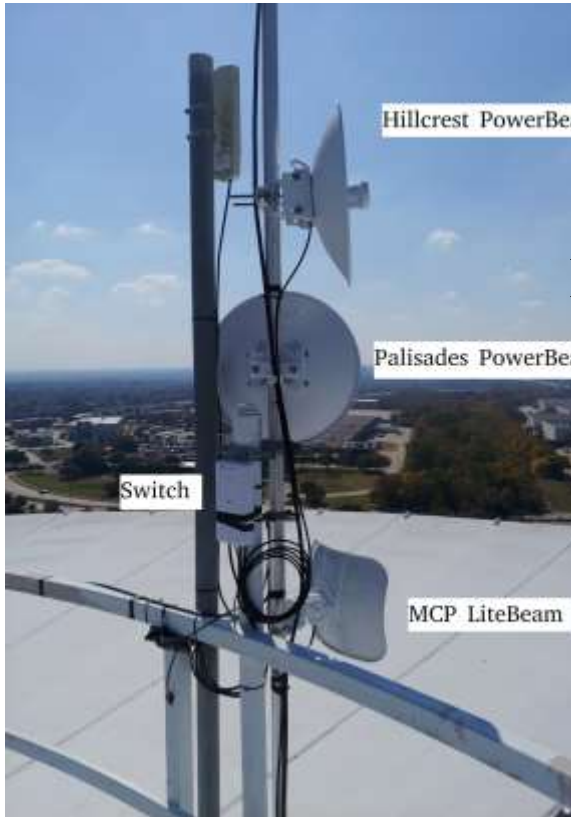


Figure 3: Yellow Switch. Hillcrest and Palisades PowerBeams, and MCP LiteBeam

We looked at the cameras and unplugged the good one, and the bad one started working. We plugged the good one back in and they both were working.

Tony had built a longer Ethernet cable for the Yellow Ethernet to the MCP and Hillcrest Ubiquiti units. We were able to get them working and talking to the ground, but there was nothing on the other end. So we were not able to align to anything.

Before we climbed down we made sure we could talk to all 6 devices from the ground.

Meanwhile the great crew downstairs had accomplished a number of tasks .

We were sending the camera data over the internet to the video server. Currently it is at Andrew KE5GDB's residence. It will be at Palisades but COVID-19 has slowed the install. We were able to route the camera data to the Palisades building using the link, and then going the same way their cameras go to the server, and freeing up our slow internet.

When we were configuring the systems remotely, we discovered that our Power Switch Unit (PSU) was not documented right. We have a 16 port PSU and we can turn on or off each of the 16 outlets independently remotely over the internet. This allows us to force a reboot if we need to by powering something down if it will not respond in a normal way. We did not have the latest information as to what was plugged into which of the 16 ports. Today the ground crew mapped it out and labeled everything. And we upgraded the software from 2012 to the latest (2016).

Also all of the Raspberry Pi computers and the software for the Windows Computer including Winlink was upgraded with the latest updates.

In the past year, a WiFi access point was installed in the same room as our equipment in the water tower. It had both a public (guest) and Allen Employee (private) SSID. I had purchased an inexpensive (\$34) 5 GHz Wireless Router to connect wirelessly to the Guest WiFi. We will use that for backup Internet. This router is now configured and is connected to the site Ubiquiti router.

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Our plan for internet is as follows.

- Once the link to K5GTX is working our outgoing internet connections will use it. His home has a 500 Mbps link up and down, and we will have a 74-130 Mbps link to K5GTX.
- If that fails, we will fall back to the water tower Public WiFi. Last time I checked, it was 90 Mbps up and down.
- If that fails, we will fall back to the Palisades Internet. They have a 1000 Mbps link and we can talk to them at 74 Mbps.
- If that fails, we have the PARK ATT DSL with 7 Mbps down, and 0.7 Mbps up. This is all we have had for the past 12 years, but more is digital now. This link will also be our primary access into the site as we have access to ports that we cannot control on the other internet access methods.

In the coming weeks, we will be configuring the site router to have all these fallback options. It is a configuration we have never done before. So it will take some time to figure it out.

I want to make sure I thank Jimmy KE5PDQ, Russel KG5NSR, Richard KG5HCJ, Dan W5KKQ, Don KG5SCK and Charles Rem (not a ham) for their help on the ground. I hope I did not miss anybody else who helped.

Finally I want to acknowledge the LiteBeams and PowerBeams were purchased with a microgrant from Irving Amateur Radio Club, except for the Palisades PowerBeam given to us by Andrew KE5GDB. Everything else was purchased through PARK funds. Thanks to all of you who pay your dues. 2021 dues can be paid now. (hint hint)

Left to do at Prestige is to get the link to K5GTX aligned and working. Then we are set until MCP or Hillcrest sites come on line.

In the meantime, we met with the people at THC Presbyterian. We are having them install two LMR400 coaxes, and four Ethernet cables from the equipment room to the roof, (about 50-75 feet). The other hospital equipment in the room runs through an exhaust duct to the roof. We will do the same thing, but we need them to do it so it passes their codes and requirements. We will supply the Ethernet and the coax. We just purchased a half size cabinet and Tony has the UHF repeater from Metrocrest Amateur Radio Society. We need to get the AllStar interface working and we are ready to install once the cables are in place. At THC Presbyterian, we will have a link to Hillcrest, a link to MCP, an AREDN node, and 2 cameras.

We contacted Medical City Plano (MCP) and because of the rise in COVID-19 cases they are not ready for us to install equipment there yet.

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Thanks to <https://www.facebook.com/groups/Amateur.Radio.Funnies>

**I PUT THE
THINGAMABOB INSIDE
THE WHATCHAMACALLIT,
TURNED THE
DOOHICKEY AND THE
WUTEVERITIS STILL
DOESN'T WORK.
ANY IDEAS?**



COAXIAL CABLE



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PARK Repeaters

The Plano Amateur Radio Klub operates five repeaters, which are located in Allen, Texas about 180 feet above ground level. All licensed amateur operators are welcome to join us on the air. All repeaters are open.

**147.180 MHz +
(PL 107.2)**

K5PRK VHF

Voice Repeater

**444.250 MHz +
(PL 79.7)**

K5PRK UHF

Voice Repeater

441.575 MHz +

DStar UHF

Digital Voice Port B

1295.000 MHz – 20.000

DStar 23cm

Digital Voice Port B

1255.000 MHz

DStar 23cm Digital Data

Broadcastify

[K5PRK 444.250](#)

[K5PRK 147.18](#)

Short Takes

SARA, Sachse Amateur Radio Association

Now using the new club repeater---W5SRA on frequency 440.350 MHz with a positive shift and a PL tone of 110.9

AllStar is available for those who cannot reach the repeater.

A 'how to' link is located on the opening page of the SARA web page at

WWW.sachseradio.org

We have been asked to support **Meals on Wheels** again this year. While the process for distribution will be changed, the need for our assistance has not. We will need 6 - 8 volunteers to aid in communications and monitoring traffic flow. Masks will be required; there will be plenty of hand sanitizer around. We will be using more of the road to stage and the lot will be 2 lanes from the street to the exit. Be there around 745 am

You need:

a Mask, an HT simplex, Safety vest, comfortable shoes, dress for the weather

Location

1440 W Mockingbird Ln
Dallas, TX 75247

There will be a staggered pick up time

so we will start the first route at

830-930

930-1030am

There will be limited volunteers from the School (Thanksgiving) and the Church group (Christmas)

If you can help for Thanksgiving please email me at w7dav@verzion.net or if you have any questions.

Dave W7DAV

VE Testing

Daryl, AF5QJ, held a couple of test sessions and will continue as needed.

Congrats to new Lucas Councilman **Tim Johnson, K5TCJ**.

[This Week in Amateur Radio](#)

Hedy Lamarr

[Invention of Spread Spectrum Technology](#)

I find this very interesting – NE5IL

[The sun is becoming active again](#)

November 21 - 23 -- ARRL November Sweepstakes (Phone)

Contest Objective: To support amateur self-training in radiocommunications, including improving amateur operating skills, conducting technical investigations, and intercommunicating with other amateurs. Stations in the United States and Canada (including territories and possessions) exchange information with as many other US and Canadian stations as possible on the 160, 80, 40, 20, 15 and 10 meter bands.

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ARRL News

ARRL magazines

QST - ARRL's Monthly Membership Journal - www.arrl.org/qst

On the Air - NEW! Beginner to intermediate level help and advice - www.arrl.org/On-the-Air-Magazine

QEX - The Forum for Communications Experimenters - www.arrl.org/QEX

NCJ - National Contest Journal - www.arrl.org/NCJ

ARRL Podcasts Schedule



The *On the Air* podcast is a monthly companion to *On the Air* magazine, ARRL's magazine for beginner-to-intermediate ham radio operators.

The latest episode of the *On the Air* podcast (Episode 11) discusses how to choose the right antenna for your station, considering several aspects that go beyond cost and complexity.

The latest edition of *Eclectic Tech* (Episode 20) features an interview with ARRL

Emergency Preparedness Director Paul Gilbert, KE5ZW,

about the future of amateur radio technology in public service. Also: A new power source that uses diamonds and nuclear waste.

The *On the Air* and *Eclectic Tech* podcasts are sponsored by Icom. Both podcasts are available on iTunes (iOS) and Stitcher (Android), as well as on Blubrry --

[On the Air](#) | [Eclectic Tech](#).



[Comments are being accepted](#) on the *Notice of Proposed Rulemaking (NPRM)* in MD Docket 20-270, which proposes application fees for radio amateurs. Formal deadlines for comments and reply comments will be determined once the *NPRM* appears in the *Federal Register*. Comments may be filed now, however, by using the FCC's Electronic Comment Filing System ([ECFS](#)), posting to MD Docket No. 20-270.

The new ARRL North Texas Website is now Live <https://arrlntx.org>

Get the latest Section News.



ARRL 2020 Simulated Emergency Test (SET) - November 14

The 2020 ARRL Simulated Emergency Test (SET) will take place November 14. The annual, nationwide exercise provides Amateur Radio Emergency Service (ARES) volunteers the chance to test personal emergency-operating skills and communication readiness in a simulated emergency deployment. ARRL is asking participants to adhere to Center for Disease Control (CDC) and local health department COVID-19 [guidelines](#) by staying home, maintaining safe distances when around people, and following recommended cleaning and disinfecting practices.

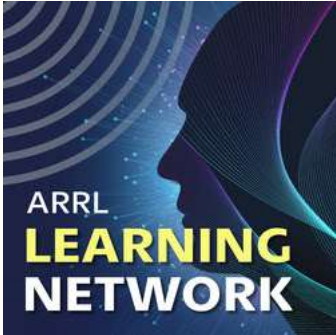
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ARRL Learning Network's new speaker forum/seminars

<http://www.arrl.org/arrl-learning-network>

These are 30 minutes presentation with 15 minutes allotted for Question and Answer session following the presentation These presentations are online using GoToWebinar which is safe Industry standard software.

Check out the ever growing [list of presentations](#).



[2020-2021 ARRL Contest Dates PDF](#)

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Local and Some HF Area Nets

MARC Nets

Sunday 8:00 PM – General Information Net – we ask participants about their week in ham radio and their thoughts on a question of interest to the ham community.

W5MRC Repeater, (146,740 MHz, offset -0.600 MHz, tone 110.9)

Monday 8:30 PM – Simplex net – see how far your VHF radio can go without a repeater

Along with general discussion. 146.520 MHz Since this is simplex, no offset or tone are required.

1st and 3rd Mondays 8:00 PM - The MARC Ladies Net – All radio amateurs are welcome.

W5MRC repeater (146.740 MHz, offset -0.600 MHz, tone 110.9)

Collin County ARES Nets

Collin County Amateur Radio Emergency Service conducts two training nets each month. You do not need to be an ARES member to participate, all radio amateurs are welcome.

1st Sunday 9:00 PM - Collin County ARES -

K5PRK repeater, 1(47.180 MHz, offset +0.600 MHz, tone 107.2 Hz)

3rd Sunday 9:00 PM – Collin County ARES -

W5MRC repeater, (146.740 MHz, offset -0.600 MHz, tone 110.9 Hz)

SARA (Sachse Amateur Radio Association) Nets

Wednesdays 8:00 PM – Ham Radio in Sachse –

Weekly “On-The-Air” Information Net called “Ham Radio in Sachse”.

N5LOC Repeater (145.25MHz, PL Tone 141.3Hz, Offset -0.600 MHz)

2nd and 4th Sundays 9:00 PM - Sachse Public Service Net –

ARES, RACES & Other Public Service Emergency Responders (like local CERT groups) Training.

N5LOC Repeater (145.250 PL Tone 141.3 Offset -0.60MHz)

3rd Tuesday at 7:30 pm

Simplex Net 146.40 – Temporarily suspended

GARC Nets

Thursday 8:00 PM – Info net – The Garland Amateur Radio Club holds an informal net open to all amateur radio operators. The net begins with check in and general announcements, followed by general discussion.

K5QHD Repeater (146.66 MHz, PL Tone 110.9 Hz, Offset -0.600 MHz)

North Texas Hospital Net

North Texas Hospital radio club weekly nets check in with area hospitals. Friday mornings (time TBD 8:30 am or 9 am). Jimmy Dominguez is NCS. 442.400/146.700. Regular splits PL tones 110.9/110.9. All are welcome to check in from your QTH as individual.

Attention; The North Central Texas Healthcare ARC net begins at 0830 Friday and moves to 146.700, the past Fridays the 146.700 repeater has been down, with uncertainty when the 146.700 repeater will be back online, the North Texas Central Healthcare ARC will only have the 442.400 portion of the net.

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HF Nets

Daily Net 11:00 AM – 9:00 PM – The Maritime Mobile Service Network – Any licensed ham (General Class or higher) can check in. This net is focused on assisting those who are maritime mobile and over the years, several distress calls have been handled by this net.14.300

Sunday 2:00 PM – Amateur Radio Satellite Net - Open net for licensed amateur satellite discussion and updates 14.282

Daily Net – OMISS – Focused on awards, particularly Worked All State (1:30 PM frequency 14.290) (8:00 PM frequency 7.185)

Many more nets are listed here <http://ac6v.com.htm>

Overland Bound

Weekly Net Every Friday night at 7:30 PM Central Time – A net for people who like to explore and take part in overland camping – hosted on the USA Grits-N-Gravy Conference Server (USA-GNG) Echolink Node: 591550 <http://www.usagritsng gravy.net>

If you want to list your favorite net. Please send as much information as you can to newsletter@k5prk.net

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What is Amateur Radio (Ham Radio?) from ARRL

(Thanks Johnnie Young)

Amateur radio is a multifaceted hobby that includes people around the world. There are about 740,000 ham radio operators in the US. The FCC has allocated [30 different frequency bands](#) from 135 KHz to greater than 275 GHz to amateur radio operators. These frequency bands are used for many different aspects of the hobby.

Some videos describing Amateur Radio:

<https://youtu.be/ysOq6ywTSzU>

<https://youtu.be/rs0i0h4OyMo>

https://youtu.be/5Z9136_Nhh4 - Classic Walter Cronkite video

Licensing:

There are [3 levels of ham radio licensing](#) in the US, Technician, General and Extra. Each level requires passing a multiple choice exam. The questions used for these exams are all [published on the web](#).

Study Aids:

Students can study for their license exam(s) in several different ways.

- Take a class
- Study training books. These are two of the most popular
 - [ARRL Technician Study Guide](#)
 - [Gordon West 2018 to 2022 Technician Class](#)
- View video classes
 - https://youtu.be/RGluTpM7_K8
 - https://www.youtube.com/watch?v=N6aFXH_SQUo&list=PL07A7D1C9D7BF7F48
- Take practice Exams
 - <https://www.eham.net/exams>

Taking the Exam:

Exams are offered by many clubs [around the metroplex](#). The Sachse club gives exams 9:00 [each 2nd Saturday at the Wylie Masonic Lodge](#).

Other Ham Radio Related Links:

Sachse Radio Club: <http://www.sachseradio.org/>

Largest/Oldest Ham Radio Org: <http://www.arrl.org/home>

Local Ham Radio Outlet Store <https://www.hamradio.com/locations.cfm?storeid=20>

Finding a nearby Club: <http://www.arrl.org/find-a-club>

Ham Radio Mesh Network: <https://www.arednmesh.org/aredn-advantage>

Amateur Radio Satellites: <https://www.amsat.org/>

Ham Radio Repeaters: <https://www.repeaterbook.com/>

Other videos:

HAM Radios: Quick and Easy Way to Get Into HAM Radio Hobby: <https://youtu.be/t0sMDRLGB3Q>

HAM Radio Basics- HAM 101: <https://youtu.be/Ow1hx5J8>

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Numerous Dave Casler Videos: <https://www.youtube.com/channel/UCaBtYooQdmNzq63eID8RaLQ>
SPACE STATION CREW USES HAM RADIO TO CALL EARTH <HTTPS://YOUTU.BE/H73EYCYSZF8>

Listen to episodes of ARRL Audio News on your iOS or Android podcast app, or online at <https://blubrry.com/arrlaudionews/>

Various Ham Radio Activities:

- Local/Regional communications
- World wide communications using Digital network linked repeaters
- World wide radio to radio communications
- [Contests](#) – Making as many contacts as possible
- Fox hunts – Finding a hidden transmitter
- Amateur Radio Satellite
- Supporting local events
- Races (marathons, bike races, etc.)
- Plano balloon festival
- Parades
- 4th of July events
- Extending RC aircraft video and telemetry
- Amateur Radio Emergency Data network (Network when the grid goes down.)
- Winlink – Email via ham radio
- Skywarn – Storm spotters (Most storm spotters report via ham radio.)
- Amateur Radio Emergency Services (ARES)
- Radio Amateur Civil Emergency Services (RACES)
- Antenna design/building
- CW (Morse code) communications
- DXpeditions – Location in an remote area (usually islands) for a short period of time and making as many contacts as possible.
- Summit On the Air – Transmitting from mountain summits
- JOTA - Jamboree-on-the-Air – Boy Scouts
- RF experimentation. Many [Maker groups](#)
- [High altitude balloon experiment.](#)