

March 2020



Officers

President:

Sean Kelly, W5SPK

Vice President:

Tim Johnson, K5TCJ

Secretary:

Daryl Morgeson, AF5QJ

Treasurer:

Ross Watson AF5QK

Activities Director:

Tony Campbell, W5ADC

Communications Director:

Kipton Moravec, AE5IB

Webmaster

John Hatch, KF5BSS

Public Relations:

Brian Trant, KF5VFM

Newsletter Editor:

Neil Gould, NE5IL

Special Meeting Notice

Given the ongoing coronavirus situation, the Plano Amateur Radio Klub Board of Directors has decided that the next PARK General Meeting

(7:00 pm Monday March 16th, 2020)

will be conducted as a "Meeting on the Air" on our club repeaters, instead of at the usual meeting location.

We will link our VHF and UHF repeaters (listed below) to provide better access.

K5PRK 147.180 +600 PL 107.2

K5PRK 444.250 +5 PL 79.7

If you can't access the repeaters, you can listen via Broadcastify at the following link:

<https://www.broadcastify.com/listen/feed/31880>

Please join this "Meeting on the Air" as we adapt to the situation and exercise our repeater skills.

The North Texas Section SET is also canceled due to the COVID-19 Pandemic.

March 2020

In this Issue

[Parks On the Air PARK event](#)

[PARK wins micro-grant for repeater upgrade](#)

[Skywarn Training Schedule and info](#)

[Technician License Ham Radio Class](#)

[VE Team at Work](#)

[ARRL News](#)

[Mentor Fest](#)

[Area Nets](#)

[Ham Radio references](#)

[Member Spotlight – I need a new one!](#)

Future Club Meeting Programs

March 16	Using a 3D printer	Tony Campbell - W5ADC
April 20	APRS	Kipton Moravec - AE5IB
May 18	How to work a Satellite	Tim Johnson - K5TCJ

Followup sessions, if applicable, are being planned for the Saturday after each meeting to further expand on the program subject. Details will be announced at each meeting.



"He wanted a ham shack, we compromised on a dugout."

March 2020

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](#)

Parks on the Air by Andy Barns W5KZJ

Andy gave us an excellent presentation on [Parks On the Air](#). The audio from the meeting presentation can be heard on the [PARK website](#) thanks to John, KF5BSS.

I had heard of it but never participated. Andy set up his POTA station at Spring Creek Forest State Preserve in Garland. See the photos below. It consisted of his Go box, heavy duty battery, solar panel, and a simple vertical antenna. He previously scheduled the 'activation' for the location on POTA.

When he got on the air, almost immediately, he was the object of a pile up. It was like Field Day. In fact I think this activity would be a great way to practice being a pile up for Field Day. Several of us registered on POTA and took turns working others.

I am looking into seeing if Plano's [Arbor Hills Nature Preserve](#) and/or [Oak Point Nature Preserve](#) can be designated as a POTA spot. According to the POTA map there is not a spot in Plano. I think it would be great for PARK to 'adopt' these for POTA and have several planned events during the year. Anyone else interested?

I did find out that there is currently NO Texas representative on [POTA](#) to request the addition of spots. Anyone want to volunteer?

NE5IL

Notice who is #2 for POTA activations.
Bob, N4CD.

Top Activators All Time			
Data updates periodically			
Call Sign	Activations	Unique Parks	Total Contacts
KB3WAV	1245	443	46190
N4CD	1226	853	86624
N2CX	556	320	15277
KC3RW	515	300	11475
KU8T	479	272	16808
N5PHT	452	50	24070
K0BAK	426	325	17150
N3VOP	402	81	9119
K0ATZ	399	174	20062
K4CAE	399	243	22595

March 2020



POTA MAPS

Activations

ADD SPOT

2020-02-22 14:00 to 2020-02-22 21:00 UTC

No spot information

W5KZJ @ K-4423 Spring Creek Forest State Preserve

K-4423 Spring Creek Forest State Preserve,

20 40 M

2020-02-22 15:00 to 2020-02-22 21:00 UTC

POTA presentation

KD4TTP @ K-0935 George Washington Birthplace National Monument

Copyright © 2018-2020 Parks on the Air

A group of people are standing around a table in a grassy field. A white pickup truck is parked on the right side of the frame. A solar panel is visible on the ground.

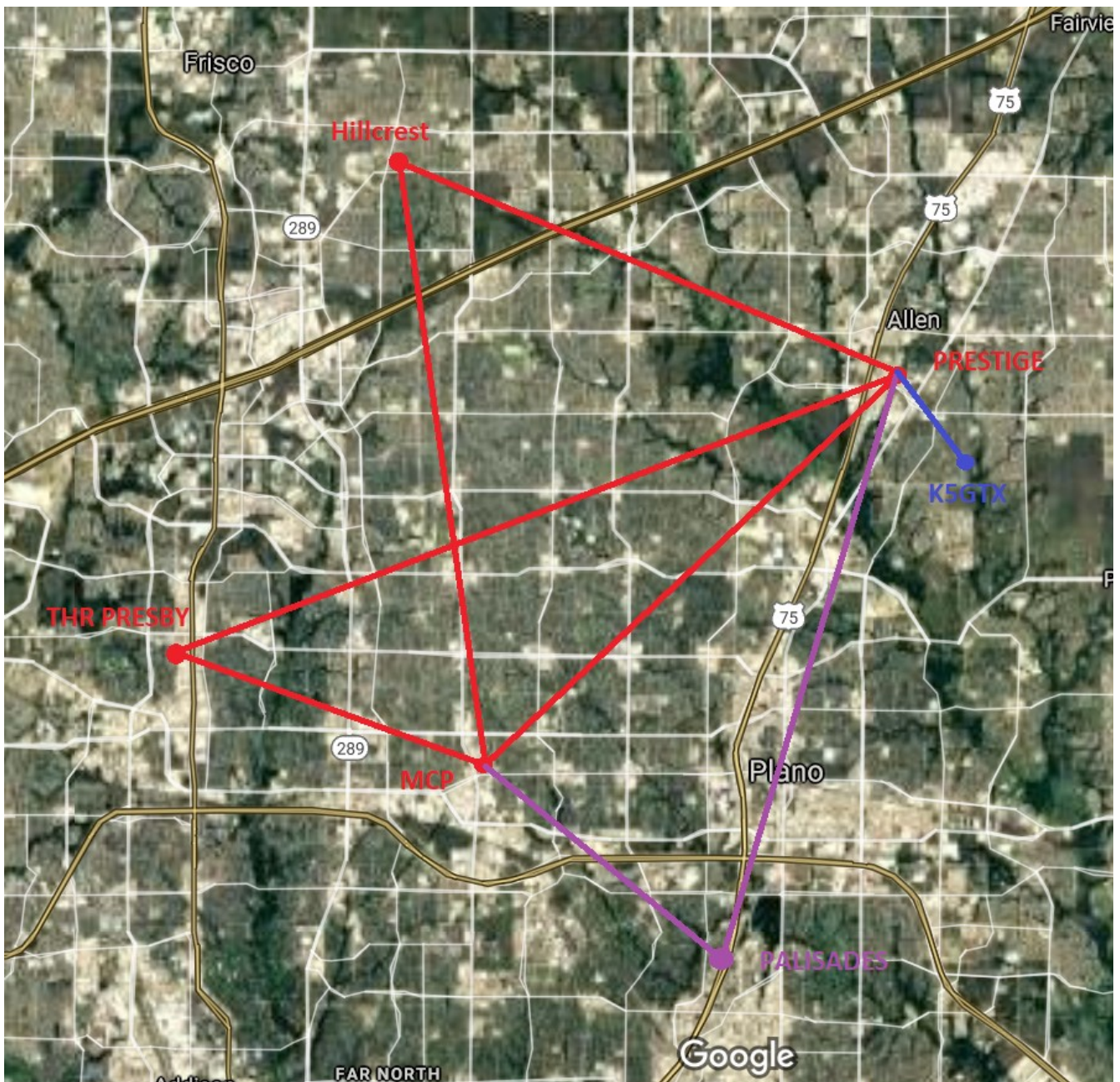
March 2020

PARK wins Irving Micro Grant

Saturday, March 7, 2020 PARK was awarded a \$1,119 Grant from the Irving Amateur Radio Club. We had written a proposal to link our 4 repeater sites together with 5 GHz Ubiquiti High Performance AirMAX Bridges and Edge Routers, and link our network with the existing Richardson Wireless Club, the Denton County Amateur Radio Association, and the University of Texas Dallas Amateur Radio Klub network.

The following image shows the planned network

The Red lines shows the network proposed and funded by the grant.



March 2020

The current Prestige water tower site that houses the K5PRK 147.180 and 444.250 will connect to Medical City of Plano (MCP), on the corner of 15th and Coit, and PARK's site hosting the Metrocrest Amateur Radio Society (MARS) secondary VHF repeater. It will also connect to a MARS UHF Repeater at another PARK site at Texas Health Resources Presbyterian (THR Presby) on Parker Rd near the Dallas North Toll Road. Finally, we will also connect to our new Frisco Hillcrest site.

We have also planned routes from Hillcrest to MCP, and from THC Presby to MCP. The idea is to have at least 2 paths from each site for redundancy.

We will need an edge router to handle the IP routing of the signals. Currently the grant has budgeted for 3 Ubiquiti ER10X Edge Router at \$109 each for the Prestige, Hillcrest, and MCP sites. The Ubiquiti Edge Router X at the Prestige site has 4 ports, and it will move to THR Presby.

The grant has also budgeted for 9 NBE-5AC-Gen2-US Ubiquiti NanoBeam ac Gen2 High-Performance airMAX ac Bridges at \$88 each to perform the routing in Red assuming one router at Prestige can interface to both MCP and THR Presby. All these operate in the 5 GHz range.

The current PARK site has ATT DSL service with a measured 7 Mb Download, and 0.7 Mb Upload for a little over \$50 per month. Currently there are three D-Star Repeaters, the two PARK Analog Repeaters (with Allstar linking, one with Echolink, and both with Broadcastify), Winlink and APRS all sharing the link. We have not exceeded it yet, but suspect with more networking we may in the future. Greg Evans (K5GTX) and Noreen O'Connell (K5XPO) has agreed to let us use some of their home Internet resources. They are fortunate to have 500 Mb Download and 500 Mb Upload at their location. The Blue line shows the 2 km link between K5GTX and the Prestige site. That will take 2 more bridges.

One of the other things we are considering is putting cameras on our sites to be able to see weather as it comes in. So they will be pointing mostly west and north as that is where the weather comes from. The Denton County Amateur Radio Association (DCARA) has 3 cameras on line you can see. One at Rosston <http://vps.dcara.net/rosston/>, another is at Little Elm <http://vps.dcara.net/littleelm/>, and a third is at The Colony <http://vps.dcara.net/thecolony/>. PARK plans to have 1 or more cameras at each of the repeater sites. The camera equipment was not part of the Irving grant. But we have a camera we are going to install at the Prestige site during the next tower climb in April. A 1080p camera requires about 1 Mb transmission rate.

Richardson Wireless Klub (RWK) has their repeater site at the top of the 300 foot Palisades building in Richardson. At this site we are planning to have a video server built from some older servers for area weather cameras. So the cameras from Denton County and from Collin County will be sent to this site. So we need a link to this site. I would recommend two connections in case something goes down. So we plan to link from Prestige and from MCP to this site. We may be able to get an even higher bandwidth link between MCP and Palisades because they are only about 6 km apart. These are the purple lines on the map.

In addition we are looking at linking Frisco Hillcrest site to a DCARA camera site in Little Elm. It will give us a second link to the DCARA network for redundancy, and maybe better access to the camera data to watch weather entering northern Collin County.

The Palisades site was not planned to be a hub, but its height and ease of access (elevator to the 22 floor, then up one flight of stairs) with an equipment room makes it a natural place to put antennas. The City of

March 2020

Richardson leases the entire top of the building. There will be links to Dallas, Sachse, Denton County and us in Collin County.

One of the things discussed last Saturday in Irving was to use some of our throughput to support the AREDN networks. It operates in the 2.4 GHz band, and we will support it as we are able and as equipment becomes available. We know we cannot have 2.4 GHz equipment at the Prestige site as it interferes with the City of Allen traffic light controls. But do not yet know if there is an issue at any other sites. We have not done a RF study at 2.4 GHz. I do not believe that this will be a problem.

We can also use the network for Winlink. Normally Winlink nodes are their own island. They work independently, collecting messages and forwarding to the Internet. If the Internet goes down, then it stores the data locally. In the very slim chance we have a county wide Internet failure, you would have to check each node to see if there was a message for you. With the network we could have multiple

Winlink nodes to share a common mail box. So if we had 4 nodes, one at each site, sharing one mailbox (or relay as Winlink calls it) it does not matter which node you use, you get all of your messages sent to any other node. Winlink via RF is typically 1200 baud, but with AREDN you can also hook up at LAN speeds.

In the meantime, McKinney Amateur Radio Klub has proposed adding their Melissa UHF repeater to the network during Skywarn. It is a long haul of about 26 km from Prestige to Melissa and slightly longer to Frisco so we will need to get more information. We are working on a MOU, the technical feasibility, and the better coverage of their repeater in the northern part of the county.

March 2020

VE Team at Work

A couple weeks ago myself and my VE team went to Dr. Gene Burton College and Career Academy to do testing for Technician License. We met the Instructor Leslie Reece who took us to their lab. We had 12 students and 2 adults to test. Leslie setup the curriculum for Amateur Radio and taught it. This was new for the College but being they teach several disciplines student need for either going to additional schools or direct to the work force it was a good fit.

The results were 5 students and 2 adults passed. After testing we were given a tour of the facility. It was quite impressive to see what they offer students. They have a variety of skills being taught. There is a state of the art CNC cutting table and lathe that they cut their own parts for the robots which are built there. Here are a few what is offered. Agriculture Tech, Floral Design, Veterinary Medicine, Architecture, Finance and Business Management. We were very impressed that such a facility exists in our area.

The school is part of Rockwall ISD. I want to thank the individuals who reached out to us to help test and promote Amateur Radio.

Daryl
AF5QJ

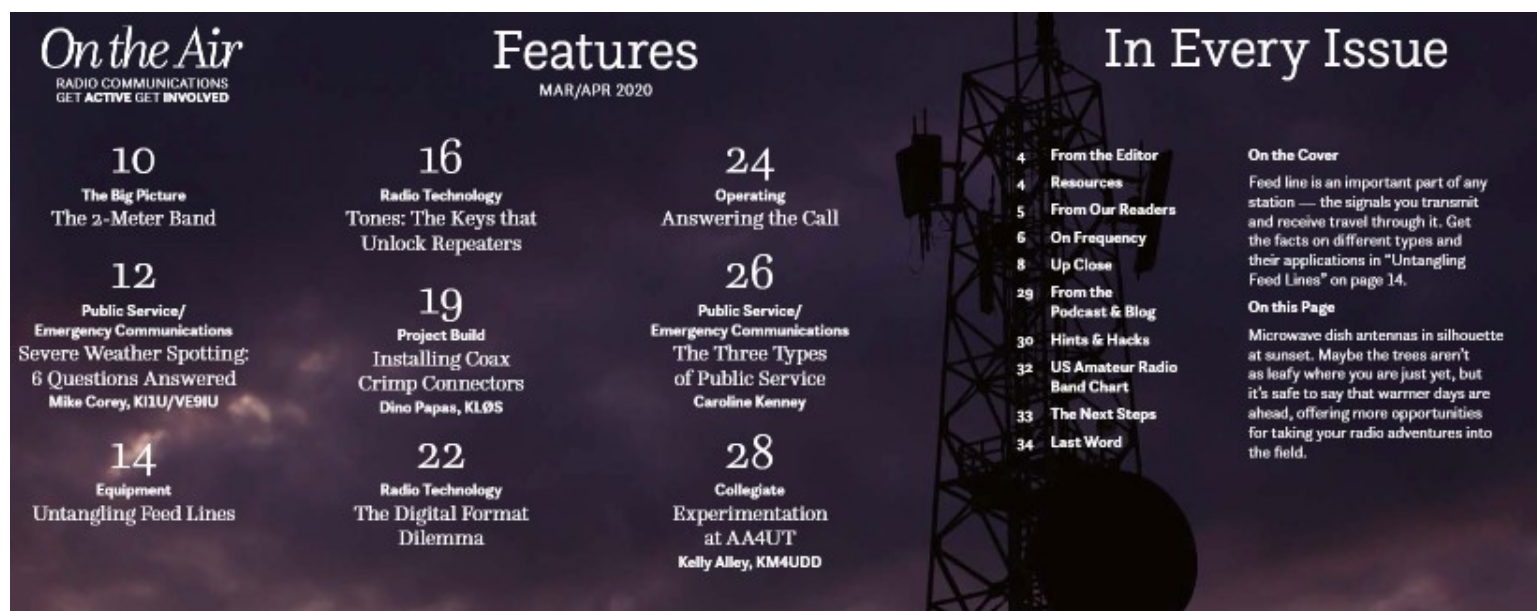
March 2020

ARRL News

On the Air Magazine

On the Air is a suite of ARRL benefits for new ham radio licensees, anchored by the ARRL bimonthly magazine, *On the Air*. The magazine covers a range of ham radio interests and topics, delivering introductory techniques and stories to help anyone with a beginner-to-intermediate-level of experience. From making your first radio contact to selecting the right equipment to project building and getting involved with public service or your local clubs, *On the Air* magazine and its suite of companion benefits will help you make the most of your amateur radio license. Get active, get involved, get *On the Air*! If you are not an ARRL member, join!

[Read](#) *On the Air* magazine (Members-only)



On the Air
RADIO COMMUNICATIONS
GET ACTIVE GET INVOLVED

Features
MAR/APR 2020

In Every Issue

<p>10 The Big Picture The 2-Meter Band</p>	<p>16 Radio Technology Tones: The Keys that Unlock Repeaters</p>	<p>24 Operating Answering the Call</p>	<p>4 From the Editor 4 Resources 5 From Our Readers 6 On Frequency 8 Up Close 29 From the Podcast & Blog 30 Hints & Hacks 32 US Amateur Radio Band Chart 33 The Next Steps 34 Last Word</p>	<p>On the Cover Feed line is an important part of any station — the signals you transmit and receive travel through it. Get the facts on different types and their applications in "Untangling Feed Lines" on page 14.</p>
<p>12 Public Service/ Emergency Communications Severe Weather Spotting: 6 Questions Answered Mike Corey, K1IU/VE9IU</p>	<p>19 Project Build Installing Coax Crimp Connectors Dino Papas, K1ØS</p>	<p>26 Public Service/ Emergency Communications The Three Types of Public Service Caroline Kenney</p>		<p>On this Page Microwave dish antennas in silhouette at sunset. Maybe the trees aren't as leafy where you are just yet, but it's safe to say that warmer days are ahead, offering more opportunities for taking your radio adventures into the field.</p>
<p>14 Equipment Untangling Feed Lines</p>	<p>22 Radio Technology The Digital Format Dilemma</p>	<p>28 Collegiate Experimentation at AA4UT Kelly Alley, KM4UDD</p>		

Join ARRL
or Renew your Membership

March 2020

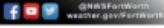
What is SKYWARN®?

All future classes have been canceled.
Use these links for more info.

Preparedness and Storm Spotter Information

A NWS page with a huge amount of information!

NWS Fort Worth Spotter Cheat Sheet



The Storm Spotters' Checklist
National Weather Service
Dallas / Fort Worth
1.800.792.2287
se.fwd.weatheroffice@noaa.gov
www.weather.gov/fwd/skywarn

How to Report

- Amateur Radio
- mPing (phone app)
- Phone
- Spotter Network (Zoom and Facebook)
- Social Media
- Email: se.fwd.weatheroffice@noaa.gov

What to Report

- Type: What are you reporting?
- Time: When did it occur? Now, or earlier?
- Location: of event. Where did it occur? (secondary: your location)
- How? Measured or estimated
- Magnitude: Damage, injuries, etc.

Hail Size Estimation

1/4" Pea	1.75" Golf Ball
1/2" M&M (plain)	2.00" Hen Egg
3/4" Penny / Dime	2.50" Tennis Ball
7/8" Nickel	2.75" Baseball
1.00" Quarter	4.00" Grapefruit
1.25" Half Dollar	6.50" Softball

Supercell Clouds

Mid & Upper Level Clouds

- Clap, oscillate or rotate in updraft areas
- Rounded updraft anvil
- Evolution
- Overshooting top

Low Level Clouds

- Rain (no rain)
- Murks, mist or flowing into the storm (glare)
- Follow bands
- Shelf cloud
- Wall cloud
- Tail cloud
- Rising wall, becoming more organized with time

Wall Clouds


- Are usually pronounced features
- Slope down and towards you
- Maintain their position with respect to the rain curtain along with the rain
- Flare under a second, flat updraft base

Shelf Clouds

- Slope down and away from the rain
- Change position with respect to the rain curtain (or ahead of the rain)
- Found in the forward flank (down) of the storm
- Have a ragged, choppy low underside

Is the tornado threat increasing?

- Circular updraft base
- Increasing spin or wall cloud / shelf base
- Decreasing rain
- Rapid vertical intensification
- Wall cloud
- Clear air turbulence
- Rain band below the wall cloud or rain curtain surrounding wall cloud



Flooding Reports

- Flood Magnitude: How high is the water? How high is "high"?
- Flood frequency: How often does this happen?
- Flooding rate: Behavior: Is the water rising or standing? Is it moving fast or slow?
- Do you have a picture to send us?

Wind Speed Estimation

- 32-40 mph: Whole trees in motion. Some resistance when walking
- 40-46 mph: Twigs and small branches (1/2" diameter) broken off of trees
- 47-54 mph: Chimney cones and roof tiles blown off. TV antennas damaged. Loss of twig and branch damage
- 55-63 mph: Flood damage begins. Small trees blown over or uprooted
- 64-79 mph: Widespread damage occurs. Large trees uprooted or blown over
- 79-112 mph: Severe and extensive damage. Ejects pulled off. Windows broken. RVs and small mobile homes overturned. Moving cars pushed off roads

North & Central Texas Amateur Radio Frequencies: <http://w4ltd.org/CWA/frequencies>
Additional Information: <https://www.nws.noaa.gov/stormspotting/spotting.php#sky-2>

March 2020

Don't forget about Saturday morning

Late Riser's Breakfast – 6:30 am at Poor Richards Café – Plano, Texas
No Name Riser Breakfast – 9:00 am at Two Rows – Allen, Texas

Technician License Ham Radio Class

The Plano and Lucas Amateur Radio Clubs will be presenting an Amateur Radio Technician License class on Thursday and Friday, March 19th - 20th, 2020. The class will be held at the Texas Health Resources Presbyterian Hospital in Plano TX. The class times will be between 8:00 AM - 5:00 PM both days, with Amateur Radio license testing starting on Friday afternoon at 3:00PM. The hospital is located at 6200 W. Parker Rd. in Plano, just West of the Dallas North Tollway. As always the class is free, the exam is \$14.00 cash. Other amateur radio class license exams (General or Extra) will also be available for those wishing to take those exams.

A government issued photo ID will be required to take the exam on the Friday afternoon of the exam. You must also know your social security number. (an FCC Requirement).

Our course material is based on the "Ham Radio School's Technician License" Study Guide, by Stu Turner. Study guides are available locally at the Ham Radio Outlet store 701 E. Plano Parkway Suite406, across the street from Fry's Electronics in Plano, or online at amazon.com. While we will cover all the material necessary to pass the exam during the course, the class moves very quickly. We would strongly encourage all students to prepare by reviewing one of the study guides, and taking online Technician License practice exams prior to the class. The cost for the study guide should be around \$23.00. It helps if it is not the first time you have seen the material.

If you prepare by reading through the study guide at least once, and marking any items that you have questions about, and then pay attention and ask questions during the two day training class, there is an excellent probability that you will pass the exam with a high score.

TO REGISTER, for this class, please contact your THR training/safety representative.

This class is open to the public. If you are not a THR employee, or if you have any additional questions, TO REGISTER, please send an email to Mike Pruden at (NN5ZZ@ARRL.NET). Please provide your NAME, EMAIL ADDRESS, and TELEPHONE NUMBER, in case we need to reach out to you with any changes. Please register as soon as possible, so we can ensure we have enough interest to hold the class.

Thanks, Mike Pruden NN5ZZ@ARRL.NET

Support those that support K5PRK

Main Trading Co.

<http://www.maintradingcompany.com/>
2246 Bonham St., Paris TX., 75460

Poor Richard's Café

<http://www.poorrichardscafe.com/>
2442 K Avenue Plano, TX., 75074

Cavanaugh Flight Museum

<http://www.cavanaughflightmuseum.com/>
4572 Claire Chennault, Addison TX., 75001

Bullet Trap. INC.

<http://www.bullettrapinc.com/>
2608 K Avenue, Plano TX., 75074

Country Burger

<http://www.countryburgertx.com/>
3115 W. Parker Rd. #500, Plano TX., 75023

Plano Super Bowl

<http://www.planosuperbowl.com/>
2521 K Avenue, Plano TX., 75074

Two Rows Classic Grill

<http://www.tworows.com/>
711 Central Expressway,
Allen TX., 75013

Greek Isles Grille and Tavern

<http://greekislesgrille.com/>
3309 N. Central Expressway #370,
Plano TX., 75023

**Chartered Financial Strategies LLC
(Sean Monohan)**

Tax Services – Business and Individual
<http://www.cfscorp.net/>
4686 McDermott Rd. #206, Plano TX., 75024

March 2020



[Apr. 18 Mentor Fest](#)

Time: 9:00am - 4:00pm

Location: Hella Shrine Center, 2121 Rowlett Rd., Garland, TX 75043

The Garland Hella Hams and the ARRL North Texas Section would like to invite all current and prospective Hams to attend Mentorfest! This event is a great way for Hams, especially those recently licensed, to meet and learn about a variety of subjects. Amateur radio operators have a great tradition of helping each other learn about and gain experience in the many facets of the hobby. Mentorfest is designed to build on this tradition by providing a place for Hams of all ages and experience levels to come together, exchange knowledge and make new friends while having fun and enjoying the great hobby of Amateur Radio.

- Here are some of the things you can expect at Mentorfest...
- Formal presentations on a number of topics.
- Local clubs providing information on their activities.
- “Elmers” (ham-speak for mentors) available for informal discussions on just about any topic.
- Tours of emergency communications vehicles.
- Representatives from the ARRL, ARES/RACES, REACT, National Weather Service and others showing how you can get involved.

Amateur License Testing - 1:00p - 4:00p

If you wish to test for a new license, or upgrade your existing license, bring \$14 and a photo ID.

March 2020

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, (147.180 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 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)

2nd & 4th Tuesday at 7:30 pm

Simplex Net

146.40

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)

March 2020

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.

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.usagritsngravy.net>

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

March 2020

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/Ow1hxClR5J8>

Numerous Dave Casler Videos: <https://www.youtube.com/channel/UCaBtYooQdmNzq63eID8RaLQ>

March 2020

SPACE STATION CREW USES HAM RADIO TO CALL EARTH [HTTPS://YOUTU.BE/H73EYCYSZF8](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](#).

March 2020

Member Spotlight

I would like to publish a member spotlight each month. If you would like to let others know more about yourself please consider writing up an article. Send it to me, newsletter@k5prk.net, by the 1st of the month.

March 2020

LETTERS TO THE EDITOR

I need your help. please help with the next newsletter. This is the club newsletter, so we need your pictures letters and articles. Let me know what you want. If you feel strongly about an issue and want to let people know what you think, write a letter to the editor. It's simple and democratic. Please be sure to follow these criteria:

- Be courteous
- Stick to the facts
- Be concise (50 -150 words)

All letters must be signed and provided a call sign if possible. The editor reserves the right to select which letters are published. The editor may also require revisions or removal of parts that do not meet the above criteria or for content deemed inappropriate by the editor. This is the same rigor that the rest of the newsletter is subjected to.

Send email to newsletter@k5prk.net

73

Neil, NE5IL

K5PRK.Net

Facebook

IO Group