Goat Notes
April 2021

Fun Fact: The Automatic Packet Reporting System (**APRS**) was invented by: Bob Bruninga, WB4APR. It was originally designed for tracking of Naval ships.

What is (APRS) (Automatic Packet Receiving System)

Being an avid off-roader, I've logged about 3,000 plus miles in my RZR in the past 12 months. I track all my trips via GPS with an app called GAIA GPS. This gives me the ability to review and track my position anywhere on the trail or given route. I can see pre-plotted options for exit routes and points of interest. For any type of emergency, someone in the group always carries a Garmin in reach GPS Communicator. This is basically a call device that at the push of a button one can signal for help, and exchange text messages in the event of an emergency via satellite.

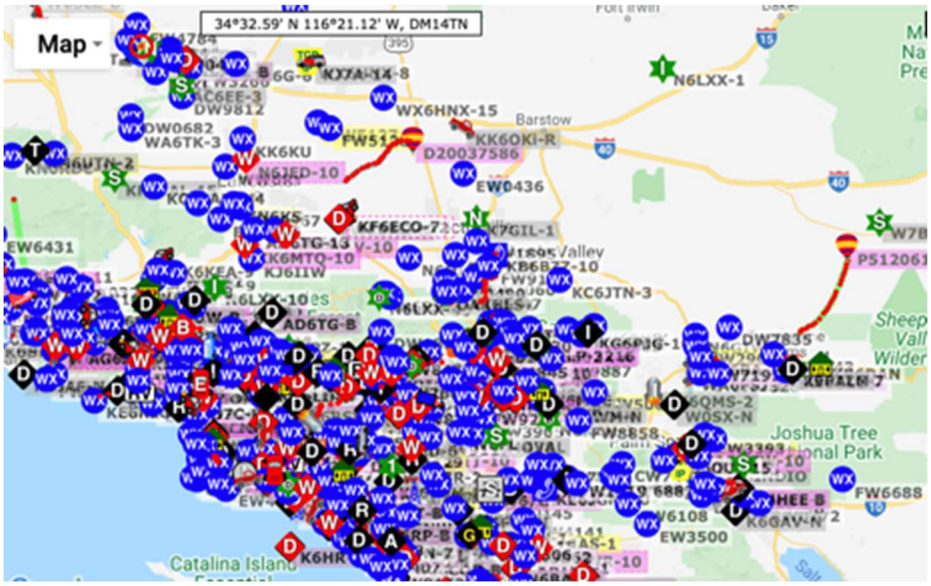
Generally, These rides are 100 plus miles. So being prepared is always something that we can never skimp on.

If I lost you at “Razor”, here is a visual of what I am referring to.

As far as radio communication go, most of the people use analog VHF Mobile or handheld radios for communications. The three main MFG that we see used are, Kenwood, I-Com and TYT. These are basic models with no bells and whistles. They are used just to communicate via voice from one vehicle to another. Distance always varies with the terrain. Mileage gaps range from right next to or behind to about 15 – 20 miles ahead of the group. Most of the time we don’t know where the other vehicles are located. We have a good idea that they are on the same route, but that is not a guarantee. We have a lead car and a rear guard. The rear-guard car that is the lifeline and finds and retrieves those that get lost on group rides. Or is generally one of the first on scene if there is an accident or rollover. There is another app that company puts out that has a tracking function, But the problem is that it requires cellular service. The areas we operate in 9 times out of 10 don’t have cellular coverage. If all users had APRS enabled radios and were licensed hams, we could technically use this as a great communication feature for pinpointing other’s locations in the event someone took a wrong turn. So why the talk about APRS. Well, I’ve never personally used it. It was mentioned on a nightly net one evening. This made me want to check it out and learn a little more about it. So, to the internet I go…….
APRS can be used to get real time info on a number of amateur radio specific assets such as repeater locations/frequency/tone, IRLP/Echolink nodes/frequency/tone, and other items. Also, a station can run a kiosk that has information such as QTH of hospitals, PD stations, etc.
There are servers that track highway speeds at certain locations on highways when mobiles beacon in those areas. APRS can also be used on foxhunts to pinpoint interfering signals.

Another really cool feature is the web-based interface. You can view all APRS data on a map. Here is a screen shot of the southern California area. This morning I was checking it out and tracked a person in the Mojave National Preserve. So, this immediately makes me want to learn more on the topic being that is the main area that I like to explore. I’m thinking of using this

feature so my wife can track me when I do extended trips in the desert and phone service is scarce.

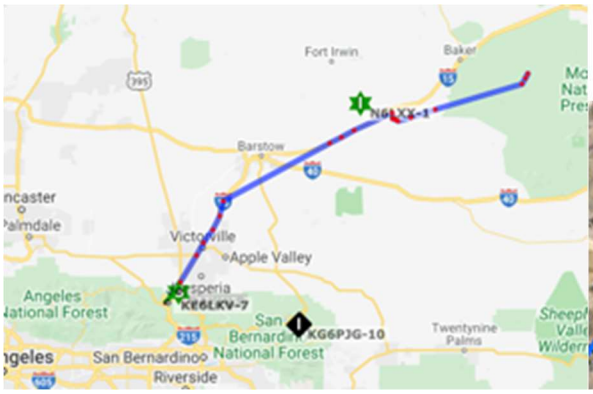


Here is the website link to view the live map. https://aprs.fi/

Now just to be clear, "APRS" is not a vehicle tracking device. The functions of it however would assist for locating someone. Another aspect that I've heard users of "APRS" mention is being able to locate other hams on road trips. If you are actively using the system you can see hams that are in range to you then initiate a QSO on simplex frequency. This is really kind of a neat idea. Now I just need to get my hands on a APRS enabled radio for some real-life testing.

UPDATE: So, I purchased a new Yaesu FT3D HT to play with some of the APRS functions. So far, I spent the weekend reading the manual and watching some YouTube videos on setting up the APRS functions on the radio. So far, I'm pleasantly pleased with the results. After turning the Beacon "ON" I was able to see my pings show up live on the APRS.FI website. Another neat feature I figured out how to use is the Text function. I can input a phone number into a message and send it from my FT3D Via SMSGTE to a cell phone. Pretty neat stuff if I may say so. I'm liking this more and more each time I learn something new with this radio.

Here are some screen shots of my trip in the Mojave preserve. Now I did not get the results that I was hoping for. But it was kind of expected only having 5 watts that I would not be able to utilize it the entire trail. As you can see, I was only able to use it when I was a little outside of baker. Again, this was only using a 5W handheld with a rubber ducky antenna. I'm sure the results would have been better had I used a mag mount antenna. Or better, a mobile setup!



Welcome to our newest members

I would like to extend a warm welcome to our new members. We are happy you found the GET ON THE AIR HAMS. Dan Jones K6YIC, Kelvin Zelaya KN6NHN, Roger Zelaya KN6ZEA,

Emilia Marquez KJ6EMM, Kyle Jorgensen KF6OPD, Bob Spence KF6KVR,

Anna Ngu KN6HSG.

Congratulations to our Net Control Operators

Roger KN6ZEA, Maribel KN6HSW, Edward W6ABW and Marida KK6YJM, you sound great as net control operators. I want to say thank you for taking the steps to volunteer and fill in the open days as a Net Control operator for the Get On The Air Hams roundtable net. The GOTA Hams are truly unique when it comes to our nightly net topics. You sound like you have been doing nets for years!

Com Academy 2021

I was looking up something on the internet and came across this:
Com Academy 2021 will be holding an Emergency amateur radio conference on April 10-11, 2021. From what I have been able to gather, this is a free conference. You must pre-register on their website. https://www.commacademy.org

Organizations attending include:

- Amateur Radio Emergency Services (ARES©)
- Auxiliary Communications Service (ACS)
- EOC Support Teams
- Radio Amateur Civil Emergency Service (RACES)
- Civil Air Patrol, Coast Guard Auxiliary
- REACT
- CERT

FCC adopts a $35 license fee for amateur radio service applications ☹

All good things come with a price, I guess. Implementation date of the new fees will be announced later, per the Report and Order. So, if you are going to upgrade your privileges then now is the time to do so!

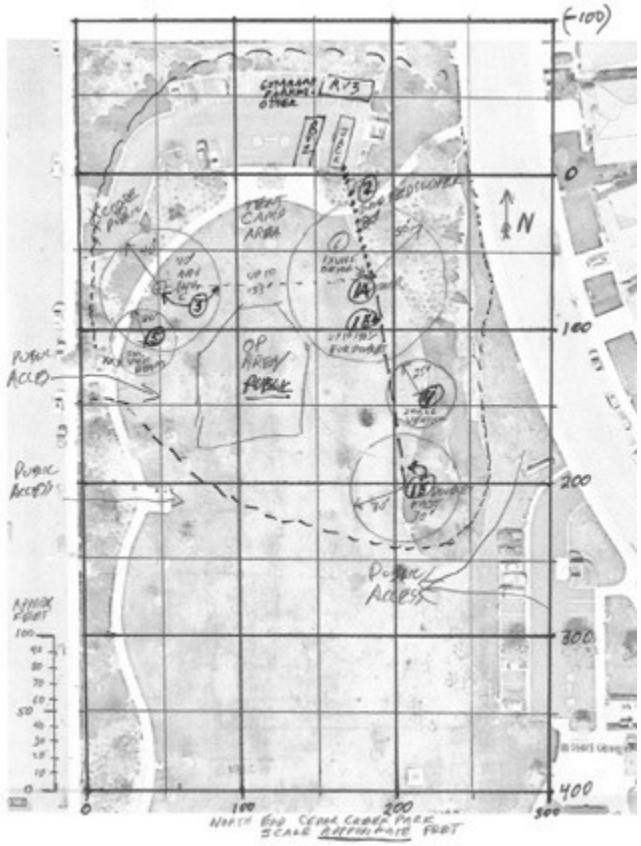
Field Day June 26 – 27, 2021 (Save the date)

Things are moving forward for the GOTA Hams Field Day event.

The Field Day Planning Committee has been putting in a tremendous amount of work

Planning & Setup Phases.

I would have never thought that this much planning was required for setting up such an event. But the goats aim to be prepared for Field Day 2021.



Field Day Station Captains

Station Captains are forming.
A few are stations are GOTA, FT8, VHF stations
So far volunteer Station Captains are Mark KM6AHY, Ken KC6WOK, & Bruce KM6WBI, Jack KM6UNQ, Kathi KD6CAF
If you would like to be a Station Captain, please contact the Gotahams Field Day coordinator, Ken KC6WOK

The Gotahams have formed a team who test radios and antennas for propagation before Field Day
Tim N6DLC, Dave K6EV, Bruce KM6WBI, Mark KM6AHY, Ken KC6WOK Kathi KD6CAF
Gotahams gathered at the Park to help with the radio, antenna, and filter tests.

During March Gotahams went to Cedar Creek Park in Eastvale, CA
PRE-FIELD DAY TESTING

A handful of GOTA Hams came out to Cedar Creek Park, Eastvale, CA This was a great way to get a feel for the area and try out some Radio and Antenna setups along with trying out the new band-pass filters which were purchased for Field Day to eliminate radio interference.
I was able to meet some new members I have spoken with numerous times during our nets. It was truly a pleasure to meet and see everyone that made it out.

Loss of Output Power/High SWR on FT991A when using a Chameleon Emcomm III Wire Antenna.

I guess I'm not the only one that experienced this issue. So, the story goes like this. You have FT991A radio all setup. Antenna connected, and the internal tuner activated. SWR readings are good, and power is set to 100W and reading 100W on the display. You are using a digital mode (FT8), and you call CQ. You make contact, exchange signal reports, log the call and press on.

Well after a little while of transmitting you notice on the display on the 991A shows a reduced power and the SWR is rising. I have experienced this more than a few times. I simply turn down my power from 100 watts to no more than 60 watts. This provides a longer time that I was able to operate. But the end result is it would do it less frequently on a lower power setting. After an extended period of time the radio would do the same thing. Kind of a frustrating situation to a new ham like myself that does not know much about Balun and Ununs. Palomar Engineers have a great diagram explaining the differences in Balun and Ununs.
https://palomar-engineers.com/balun-and-unun-styles

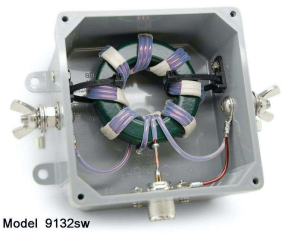
With the expertise of one of our Members (TIM N6DLC), he was able devise a solution. Apparently, the reason why this was occurring was the transformer on the Emcomm III was heating up from the high duty cycle that FT8 creates. Thus, raising the SWR and causing the radio to reduce the output power to protect the output transistors from being damaged.

Tim N6DLC being a knowledgeable ham, came prepared with his bag of tricks to test with. He determined that the use of an Unun VS a Balun would probably solve the issue. Bruce KM6WBI was able to order a couple and they had great results. So, don't throw that wire antenna out just yet! I'll probably take mine out of the box when I get my hands on the proper Unun.

Caution

Ununs are intended for use with unbalanced antennas such as verticals and long wires.
They will not work with balanced designs such as dipoles or loops and use with a balanced antenna may cause erratic operation and/or damage to the unit.

Below are some sample images of Ununs.



Lionel the Lizard L6ZRD by Kathi KD6CAF

Lionel the Lizard lives with his friends in the mountain foothills among the evergreen trees and silver-tasseled scrub bushes. A decorative railroad car sits outside his telegraph shack.

Lionel Lizard and Sally Salamander ride the railcar to adventures exploring new places.
The wall in his ham shack has a tattered copy of the Morse Code alphabet
and a photo of Samuel Morse

He talks to his friends on Zoom chat and sends out his message using his long lizard snout.
CQ, CQ, CQ This is Lionel L6ZRD, QSL?
Today on Zoom chat everyone was talking about the Gotahams.
They were planning a day at the Cedar Creek Park in Eastvale to operate radios, put up antennas and check for interference on the Amateur Radio bands.
Lionel and Sally decided to go to the park, so they climbed onto the railcar and traveled to Eastvale to practice for Field Day 2021.
They arrived at Cedar Creek Park to spend time with their Gotaham friends. They tested antenna height, radio propagation and hooked up the band pass filters to find out how well they eliminated intermodulation.

It was a sunny day in Eastvale with a slight breeze. The radios were tuned, the band pass filters were working, and the antennas were secured to the ground.
Just then a big gust of wind blew through the park. An antenna began to lean and without warning, fell over.
The Gotahams decided to write a detailed plan which included adequate antenna fall zones, securing for all cords, wires, and antennas.
Lionel and Sally decided to check their own antenna when they arrived home.
Lionel Lizard sent out his message telling everyone about the fun time they had in the park learning about radios, ban pass filters and most of all antennas.

CQ,CQ,CQ This is Lionel, L6ZRD, QSL?

The End