

*The content which follows is a transcript of the Practical Amateur Radio Podcast hosted by Jerry Taylor, KDOBİK. This monthly version of PARP is typically released the last week of each month.*

The Practical Amateur Radio Podcast – Episode number 60.

Play theme music.

From the ham shack of KDOBİK, located in Colorful Colorado, this is the Practical Amateur Radio Podcast.

This is show number 60, volume number 5 with a release date of October 24 , 2012.

Hello everyone. My name is Jerry Taylor; my amateur radio call sign is KDOBİK and welcome to the Practical Amateur Radio Podcast...Creating Elmers One Podcast at a time. Amateur radio or ham radio is what this podcast is all about. If you are currently studying for your exam or have been in ham radio for years....I'm hopeful this podcast will help you. If it has helped you, I hope you will continue to listen and I also hope you'll tell others. Also, in keeping with our Creating Elmers one podcast at a time philosophy, if you learn something from our podcasts....please share that knowledge with others.

Wow....episode 60. It was of course less than one year ago when I recorded and released episode 50. Episode 50 was a great episode....all about SOTA and it was certainly a milestone. I'm truly honored to have the opportunity to podcast about amateur radio and even more humbled that someone out there is willing to listen.

I try to keep a running list....sort of a to-do list of topics to discuss on PARP. Since I work from a script, I may also have two, three or more different episode topics all sort of going on at the same time, but at different levels of progress. I do find inspiration at the most odd times and it helps me to make sure I have content ready to go when it is time to sit down in front of the microphone and talk for a half hour or so. In recent months, I've typically chosen the topic to be which ever one was most complete, then spend the necessary time to tie together the loose ends and record it.

However, the timing for this topic is related to the subject being a part of amateur radio news in recent weeks which I discussed in PARP + 22 and from several emails I've received in the past several months....again related to this same subject.

The subject or topic for PARP 60 has to do with antennas and various antenna restrictions facing amateur radio operators in the US. Again, over the past several months I've received emails with questions from listeners. These emails all had the same general theme with their questions and instead of just reading the emails as I've done in the past...I'll combine and cover the questions all together.

But before I get started, allow me to state the following. A "real ham" "or being a real ham" is not defined by the height of your antenna tower or the amount of power you run. If you are fortunate to live in a location where you have no limits....fantastic. However, as we dig deeper and deeper into the topic of antennas and antenna restrictions, you may find your situation closely resembles that, which I am going to describe. If this is true...then please allow me to introduce you to the word compromise.

I personally believe that while there is a will....there is a way to get on the air and operate. But without the ability to compromise in restricted situations, you may fail in this quest. Allow me to say one more time....A "real ham" "or being a real ham" is not defined by the height of your antenna tower or the amount of power you run.

First listener question has to do with antenna restrictions. Specifically...what are they, why do they exist and how can they affect us?

In the US, licensed amateur operators have two different types of antenna restrictions to contend with. OK...three if we count our XYL's or parents....but the two we're going to talk about today are Local Government Zoning Ordinances and CC&R's.

These two types of antenna restrictions while somewhat different may also need to be considered together when determining how and what type of antenna you plan to install. Let's break the two down into practical and easy to understand terms.

First, Local Government Zoning Ordinances. Just as it implies...these are laws and rules which have been established at the local city and/or county level. Each and every city and county government will have different requirements and guidelines regarding antenna use. While you may get lucky and find that your city or county does not have any such ordinance....I believe it is safe to say that most will. Regardless....it is your responsibility to research and comply with these ordinances.

Second, are the CC&R's many (including myself) must live with. CC&R stands for Covenants, Conditions and Restrictions. CC&R's cover a wide range of rules and regulations homeowners must follow. Some examples include what color you can paint your house, what type of roofing material you can use, what type of front door you can install on your house and of course guidelines/restrictions for any such antenna installation.

As I previously mentioned, the two types of restrictions may work together, one may trump the other and likewise they may work against each other.

An example of what I'm talking about is this. Let's say our city ordinance does allow for an antenna tower to be installed with special permit up to a height of 35 feet. But we live in a neighborhood with a CC&R which specifically states the only type of antenna that can be installed are the variety for satellite and television reception.

Can we install our ham radio antenna? The answer is probably no. But I'll come back to this scenario in just a minute.

Let's turn the table in the next example. Let's say we either don't live in a neighborhood with a CC&R or the neighborhood we live in does not limit a amateur radio antenna. BUT....the city and county ordinance says NO.

Can we install our ham radio antenna? The initial answer might be NO, but we do have an ace up our sleeve to help us in this scenario.

This ace up our sleeve is called the FCC PRB-1 document. This document is an 11 page amateur radio memorandum opinion and order released September 19, 1985. While 1985 was a long time ago...this still applies today.

Basically....everything written into this 11 page document can be summarized with the following sentence. PRB-1 states that local governments must reasonably accommodate amateur operations, but they may still zone for height, safety and aesthetics concerns.

So in our second example where we have no CC&R but the local city or county ordinance says NO, then PRB-1 will apply.

But doesn't an FCC issued PRB-1 also provide help for those living with CC&R's? In a perfect world perhaps....but the short answer is PRB-1 DOES NOT provide any relief from restrictions in a CC&R. So even if the local city and county says it is OK, the CC&R will trump or override the local ordinance and can prevent you from installing an antenna.

What do we do if we encounter either the local government zoning ordinance or a CC&R?

With regards to the local government zoning ordinance. I would suggest you present them a copy of the PRB-1 to review and discuss what it is you want to do, how you plan to do it and why you want to do it. Do this in a civil, professional and respectful manner as going into this situation with an attitude will get you no where, fast.

If you can't come to an agreement, then I would recommend you contact the ARRL. One of the many benefits the ARRL provides to us is their Regulatory Information Branch. This group can help you in these types of situations.

Now back to CC&R's that say no on any type of antenna installation. Ordinarily, I would suggest you speak to the homeowners association and plead your case. This may still be necessary....but before hand, I would ask....Does your HOA and CC&R allow for a flag pole?

I know this may sound odd but many of our fellow hams are on the air each and every day by using a small loophole in the CC&R's which allow for a flag pole. If your HOA and it's CC&R allows for a flag pole, then there are many plans on the internet for assisting with disguising many factory made vertical antennas as a flag pole.

Alternatively, the company Zerofive Antennas manufacture three different flagpole vertical antennas. These are flagpoles....these are antennas...and no one will know the difference.

<http://www.zerofive-antennas.com/>

Check out the recent article over on the Ham Radio School.com website titled "No Antennas Allowed" No Problem...Use a Flag Pole!" Jurg is a member of my amateur radio club and while he is unable to install an antenna per his HOA and CC&R, he is allowed a 25 foot flag pole. Jurg completed his installation and on his very first HF QSO with the new setup he managed to work Luxemburg on 20m. Not bad for a stealth antenna.

Now perhaps we are getting slightly ahead of ourselves here. I should probably slow down and ask the question of what it is you are trying to accomplish with regards to installing an antenna. While I'll be the first to tell you that you really don't need a huge antenna farm to have fun with ham radio. You may truly have your heart and mind set on having a lot of aluminum in the air. If this truly is the case, then there may just not be a compromise to be made between you and your HOA.

However, if you're OK with some compromise...then I really do suggest you sit down and discuss your plans with your home owners association. I would emphasize amateur radios role in public service. Provide examples of just how amateur radio and emergency communications group function in your community. Then finally show diagrams and pictures regarding how the antenna will look and function. You might be surprised at what you can work out.

Of course, you must also be prepared for what you will do if an absolute no is given. I have some suggestions I'll cover in a few minutes.

### Research info

<http://www.arri.org/prb-1>

Now the second line of questioning from a few listener emails I received had to do with the US Congress directive for the FCC to seek comments on emergency communications by amateur radio and impediments to amateur radio communications. What were the results of this research and what does this mean with regards to our abilities to install antennas for amateur radio use?

Back in the August timeframe, the FCC released its findings on the Uses and Capabilities of Amateur Radio Service Communications in Emergencies and Disaster Relief. As I stated earlier, this was a Congressional directive issued back in the Spring of this year.

Many thousands of our fellow amateurs (myself included) sent in comments concerning the restrictions of HOA's or homeowner associations and their CC&R's impose on the use of amateur radio antennas. I'll admit, I was somewhat optimistic, I hoped the FCC would see how these CC&Rs do limit the amateur radio service for emergency use.

However, the FCC responded with the following statement:

### I quote

"Moreover, while commenter's suggest that private land use restrictions have become more common, our review of the record does not indicate that amateur operators are unable to find homes that are not subject to such restrictions. Therefore, at this time, we do not see a compelling reason for the Commission to revisit its previous determinations that preemption should not be expanded to CC&R's".

### End quote

Remember, PRB-1 which has been in place since 1985 had nothing to do with private CC&R's and therefore nothing has changed.

As we all know "when all else fails" there is amateur radio. Amateur radio contributes a tremendous amount when disasters and emergencies occur. We've all heard the stories of how amateur radio was used shortly after the attacks on the World Trade Center on 9/11 and the involvement of amateur radio in the aftermath of Hurricane Katrina.

In my own backyard, amateur radio served a purpose during the Colorado wildfires just this past summer. Then again when hurricane Isaac hit New Orleans, amateur radio was there helping to save lives.

Amateur radio works in these situations for many reasons. My friend Bob Witte, KONR recently blogged about and shared his comments which he submitted to the FCC.

Bob stated, (and I quote) "The key attributes that make the Amateur Radio Service so valuable in an emergency or disaster situation include the large number of trained operators available, the tendency for many amateur radio operators to prepare their stations for emergency operating conditions, the high degree of flexibility due to the wide range of spectrum and emission types available, and the ability of amateur radio operators to adapt to adverse operating conditions" End quote

<http://www.k0nr.com/wordpress/2012/05/my-comments-on-the-fcc-proceeding-12-91/>

One of the key points I submitted in my comments to the FCC was the possibility of these restrictions impeding the overall growth to the hobby and service of amateur radio. The point I hope I was able to make is as more individuals are exposed to the hobby and service of amateur radio, but also live in these restrictive neighborhoods....would they or could they just simply give up on the idea of getting involved?

Meaning, if a person who might be interested in getting into amateur radio....just simply give up on their plan to pursue the hobby and service because of these restrictions?

Now we've added to the already somewhat misconception that amateur radio is too expensive of a hobby. So now on top of all the expensive equipment one must purchase to participate in the hobby and service of amateur radio, you must now find a new house and re-locate. I can just imagine how that conversation will go down with our significant others.

By the way, amateur radio doesn't have to be an expensive hobby. I talked about my thoughts and ideas of amateur radio on a budget in PARP 44 which I recorded and released in July 2011. You can find the link to episode 44 by visiting MyAmateurRadio.com and click on the tab at the top of the page labeled Podcast Episode Index. Of course, PARP 44 doesn't take into account buying a new house and re-locating.

But seriously....again amateur radio doesn't have to be an expensive hobby and you don't have to move house to participate both in the hobby and service of amateur radio.....especially if you are willing to compromise.

The third line of questioning submitted from listeners centered around how to get around those troublesome CC&R's.

Unless you are just finding my podcast and this is the first episode you've listened to, you know that I live in an HOA neighborhood and have done so since before I was licensed just over 5 years ago. My wife and I love our home and have no plans of selling or moving anytime soon. Yet, I operate on VHF, UHF and the HF bands on a daily basis. I've earned multiple Worked All States awards, I've worked stations on all six continents and have worked over 70 DX entities and I've done all this using stealth like antennas.

Please understand, I'm not telling you this in an effort to brag. My intentions are truly to motivate and encourage you and basically let you know that you don't need a massive tower and beam antenna to work the world on amateur radio. While it is true these things may help you....they are not required.

One might compare this to fishing. One doesn't need to go out and spend thousands of dollars on a fancy new jet boat, when an old canoe and a wooden oar will do the job. But I digress....

Listen....

If you live in an HOA restricted neighborhood and are not allowed to erect any type of external antenna....you still have options which will get you on the air and will allow you to make contacts.

Let's break this down....

What is it that interests you about the hobby and service of amateur radio? If local and emergency communications is of interest to you, then this will be relatively easy for most of you. You may find that just stepping out onto your balcony or back porch will allow you to hit the repeaters in your community and also provide you a relatively good range for simplex communications. This includes just from a hand held type radio.

We can better this by installing a dual-band VHF/UHF antenna either on a permanent or temporary basis. I've talked before about how I used a mag-mount style antenna which I moved from my SUV when not mobile and clamped it down onto my metal gutter. From this vantage point, I could access most of the front range Colorado repeaters.

I did upgrade my setup by installing the Diamond X-30 dual-band antenna. This antenna is mounted on an old satellite dish mount on the side of my house. The antenna can only be seen if you are standing inside my enclosed courtyard or by a passing airplane or helicopter. My HOA owns neither. So I'm good to go from that stand point.

When I do work local VHF or UHF operations, I'm usually either using my FT-857 or my FT-8800. I can access all the Colorado Front Range repeaters as well as operate mountain top simplex stations when I'm chasing local SOTA stations as far south as Pikes Peak (about 50-60 miles) and as far north as Longs Peak (another 50 miles or so).

I would suggest you look carefully around your house or even apartment for possible antenna locations which can't be seen. The beauty of most VHF/UHF antennas is they are relatively short in length and could be disguised quite easily. I've read accounts of other hams placing the antenna almost flush against the side of their house, painting it to match and it blends right in.

Now with HF communications, we've got to up the ante a bit. My 20m workhorse antenna is an inexpensive hamstick dipole mounted on a push up pole. Because of my enclosed courtyard, only the very top of the dipole antenna can be seen. But you've got to really look hard to even see it as the antenna is black and blends in nicely to the black shingles of my house.

From this antenna, I've worked over 70 countries. During the Colorado QSO party in September I had several hams comment on my signal and when I told them I was only running 100 watts into a hamstick dipole, they were surprised.

These hamstick style dipole type antennas are available from a couple of different manufactures. Now I say "Hamstick style" only because the original hamstick dipole antenna was made by the Lakeview company. Unfortunately, the Lakeview Company is no longer in business. But you may still be able to find their specific brand of antennas around. Basically they are designed to be used as a vertical mobile HF whip antenna. However, mount two horizontal using a bracket and it turns into a dipole antenna.

A hamstick dipole antenna can be supported on a lightweight mast in a permanent or temporary installation. Just as in my case, if you do your homework and look around your house....you might just find a location where something like this could be mounted and it's either not visible at all or blends in.

If operating HF portable interests you....and this can be from just about anywhere including a nice, quiet park or a mountain summit, then you might look into some of the HF portable antennas. I'm very pleased with the performance and reliability of my Buddipole antenna setup. But there are other manufactures and who knows....you might even enjoy building something yourself.

But if this is a direction you might want to go, then these types of antennas also work well in a temporary setup for home use. Many business travelers even bring along their buddipole antennas and work the world from their hotel balcony.

Depending on your HOA, you might be able to setup a portable HF antenna for a few hours, get on the air and then take it down when finished.

While I've talked a lot about horizontal dipole antenna configurations for HF use. Vertical setups do work as well. While I tend to setup my buddipole in a horizontal dipole configuration when operating picnic table portable, I set it up in a vertical with a single wire counterpoise or radial counterpoise when activating mountain top portable or Summits On The Air.

By the way, if you would like to know more about the Summits on the Air program. Please visit [MyAmateurRadio.com](http://MyAmateurRadio.com), click on the Podcast Episode Index tab and look for episode 50 which I released last December.

As already mentioned, many of the commercially available vertical antennas like the Hustler BTV series can be disguised as a flagpole. Just Google Flagpole antenna and you'll find ideas for how to do this. I'll post a link in the show notes where you can find a document from DX Engineering who sells the BTV series antenna. In this document they discuss how to use 2 inch diameter thin-wall PVC pipe to make it look like a flag pole.

[http://static.dxengineering.com/pdf/flagpole\\_antenna.pdf](http://static.dxengineering.com/pdf/flagpole_antenna.pdf)

Finally as I mentioned earlier, many antenna manufactures are making flagpole antennas. I talked about the zero-five antenna model, but a quick Google search also produced a Force 12 Antenna available at Texasantennas.com. I'm sure there are others.

If you have trees, a wire dipole antenna can be setup and almost be invisible to those who do not know it's there. A friend was telling me about some Poly-Stealth high strength wire he ordered from Universal Radio. (I'll post a link in the show notes) Anyway, he swears by this stuff and has built several dipole antennas which he has supported in his backyard.

<http://www.universal-radio.com/CAtalog/cable/polystealth.html>

Now some hams have managed to turn their rain gutters into antennas. If metal, some have just directly turned the gutter into an antenna. If plastic gutters, some have run a wire inside the gutter. Some use the gutter to conceal the wire which they mount below or behind.

Finally, do you have an attic? Depending on size, you may be able to utilize space in your attic to mount some form of antenna. Just Google ham radio attic antennas and you'll find dozens of hits on different articles.

I found a YouTube video (I'm sure there are many more) that shows both HF and 2m VHF antennas mounted in an attic. For HF he has 10, 15 and 20 meter antennas. It's a nice example of an HF attic install and would be perfect for those who have long attic spaces to work with.

<http://www.youtube.com/watch?v=nKJmeiGCJqM>

For those apartment dwellers out there....no I haven't forgotten about you. While I've never lived in an apartment as a licensed ham. I have certainly lived in my share of different types and styles. While I also realize that apartment buildings do vary from the rural areas of the country from those in the cities....AND...apartment buildings in cities such as Denver and Dallas (where I've both lived) are certainly different from those in New York City.

If you are fortunate and your apartment has a balcony...then many of the antennas I've discussed will work just fine. I've even used the Super Antenna model MP-1 from newsuperantenna.com both at home and when traveling. It is lightweight, compact and assembles in just minutes. Yes it is a compromised antenna....but it will get you on the air.



No balcony? Well....this probably isn't an issue for VHF/UHF operations, but what about HF. If you have no balcony and no access to an attic, does this mean you can't operate on the HF bands?

As I stated at the top of the episode, "A "real ham" "or being a real ham" is not defined by the height of your antenna tower or the amount of power you run". So having said that, I've seen many examples of indoor types of HF antenna installs. Everything from a vertical mounted in a window seal to a dipole installed on the walls and ceiling in a room.

However, anytime we bring an antenna indoors....the challenges of ensuring we are not causing interference is magnified many times over from an outside installation. This may require a compromise in power as well. But I believe this is a topic for another episode.

In the mean time, I've found some interesting and helpful articles available on the ARRL website which I'll provide links to in the show notes. These two articles specifically discuss indoor HF antenna and the various compromises one must take.

<http://www.arrl.org/files/file/Technology/tis/info/pdf/9810066.pdf>

<http://www.arrl.org/files/file/protected/Group/Members/Technology/tis/info/pdf/7410022.pdf>

Let me start to wrap things up and issue a challenge to all listening.

I've provided a lot of information in this episode. Some of this content I've certainly talked about before. I chose to bring it all back up again because I still receive emails and I still hear hams and non-hams talk about how they can't get on the air due to these restrictions.

There may be many reasons which can prevent someone from getting on the air. But antenna restrictions are just simply not a deterrent in my opinion. While I know a few thousand hams and non-hams will hear this podcast episode. So many others will not.

I encourage those of you to suggest the topics of antenna restrictions and more importantly antenna solutions to work around these restrictions at your local amateur radio club meetings. Those who blog, I suggest you dedicate a blog topic or two about the subject. Finally, those who are working close with new hams and soon to be hams, help them to understand that these restrictions do not mean they can't get on the air, they can't become a ham.

### **Featured Website Segment**

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### **Featured Gadget Segment**

Our featured gadget for episode 60 are the fine Rite in the Rain products available from RiteInTheRain.com (rite is spelled romeo india tango echo). I'll place a link in the show notes.

<http://www.riteintherain.com>

I use the Rite in the Rain products for both my Summits on the Air activities...but also keep a small rite in the rain notebook in my car, in my work backpack and am pretty much exclusively using their writing instruments (that would be pens) on a daily basis.

If you are familiar with the situation comedy Seinfeld, then you probably remember the episode with the space pen. I believe the episode was simply titled, "The Pen". Go Google it and I'm sure you'll find it on YouTube.

Anyway, these "All Weather Pens", AKA Space Pens are fantastic for amateur radio use or as I've indicated...every day use. They will write on wet paper and the ink doesn't smudge.

My favorite is the Tactical Clicker. This is the same pen many of our armed service members carry and if it's good enough for the military...it's certainly good enough for me.

Rite in the Rain also makes a wide variety of paper products from small binders to full size notebooks. They even sell their paper which you can use to create your own forms on a laser printer. They also sell a different type of paper to work with ink jet printers.

I believe the Rite in the Rain products will help you in just about any capacity from emergency communications to mobile and portable operations including Field Day, Summits on the Air, Islands on the Air and your extremely remote DXpedition.

You can find Rite in the Rain products from retailers like REI and Cabelas or can order direct from Rite in the Rain. I also believe you'll find a wide selection of Rite in the Rain products on Amazon.

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### **Ham Adventures Segment**

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While episode 60 is not a full featured as I had wanted it to be, I've been busy just the same in the shack and also out of the shack.

My goal of one QSO per day for 2012 is still on track. If you haven't realized it yet...we are less than 70 days remaining in the year and of course even closer to the holidays. I will visit my family in Texas sometime between Thanksgiving and Christmas, so I'm working out the details to keep my QSO per day goal going. I haven't decided if I'll just use the mobile setup to get my daily QSO or if I'll pack along my Buddipole. Perhaps both is the solution. We'll see once we get closer to leaving.

I did successfully complete that SOTA activation I told you about in episode 59. It was a beautiful day for a hike and I worked about 25 QSO's from the summit of Centennial Cone. I truly look forward to the next opportunity to lace up the boots and hit another SOTA trail.

By the way, if you are just finding my podcast and heard me speak about Summits on the Air during the October Boulder Colorado Amateur Radio Club....welcome. Thanks for listening.

I've really enjoyed sharing SOTA with many of the local clubs in the Denver area this year. To date, I've completed five face to face presentations to hams in the local Denver area. I've also conducted a couple of remote sessions to clubs outside the area. My invitation is still always open. If your club would like to learn more about SOTA, just drop me an email and we can arrange a time.

I have one more SOTA presentation to give locally. In early November, November 7th to be exact...I'll speak to the Waterton Amateur Radio Club. If you live locally and would like more information on how to attend this presentation....please contact me.

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### **Mailbag**

None

Well this wraps another episode of The Practical Amateur Radio Podcast. We will return again with episode 61 sometime in November.

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Until next time, 73 to all from KDOBİK.

This has been The Practical Amateur Radio Podcast. The Practical Amateur Radio Podcast is written and produced by Jerry Taylor. You may contact Jerry by email at [kd0bik@arrl.net](mailto:kd0bik@arrl.net) or by visiting his website at [www.myamateurradio.com](http://www.myamateurradio.com). The practical amateur radio podcast and myamateurradio.com are protected under the Creative Commons license. Please see myamateurradio.com for details.

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