Freedom Feens

Make Your Own Liberty Radio Station for $87 – Guest post by Cash Newmann, 2017 update

(Get your 3 foot x 5 foot Freedom Feens radio flag for your radio studio HERE for 16 dollars)

Guest blog post by Cash Newmann

BEFORE YOU START,

1. MAKE SURE YOUR TOWN HAS AT LEAST ONE **OPEN FREQUENCY**. Here's a site that helps you find one if you're in the USA, searching by zip code:

http://radio-locator.com/cgi-bin/vacant

then use your radio to make sure there's not already a community station on that frequency.

SO, YOU WANNA BROADCAST LIBERTY MEDIA ON THE RADIO?

I've seen a lot of posts on FM micro-transmitter systems, but they're all lacking in this detail or that. For instance, a lot will vaguely say what kind of gear you need, but then don't say where to get it, or diagram how to set it up your gear chain, or specifically say what adapters you need. I made this post to fill a void. This post includes details of ALL

parts needed, direct links on where to order them (on Amazon!), how to set them up and configure them, as well as a lot of related information based on experience.

DISCLAIMER:

I've experimented with the transmitters below, so this is from first-hand experience. But I did it on a boat, 200 miles from shore, in international waters. I do not own any of this gear, I sold it to some church folk at a gun show after I was done testing it. And I am not currently transmitting. I'm just passing on information, in a theoretical capacity, for educational purposes only. Nothing here is legal advice, I am not a lawyer. I take no responsibility for anything you do or anything that happens as a result of doing anything listed below. ALL OF THIS IS FOR EDUCATIONAL PURPOSES ONLY. DO NOT DO ANYTHING SHOWN HERE. EVER.

First question: WE HAVE THE INTERNET. WHO NEEDS RADIO?

Podcasting is cool, but radio can reach people who would never find a given podcast…those who are not Internet savvy, or even people who *are* who Internet savvy, but just dig radio. There are millions of people like that. And there are a lot of folks who channel-flip while driving (especially when stuck in traffic). Inexpensive low-power community radio can reach those people, bringing them a voice of true liberty.

Radio is low-tech and almost like magic. It's worked well for a hundred years, and is still going strong despite the flourishing Internet.

Besides, radio is fun. There's a thrill you get from being in your car listening to something you put out without the nerding around of the Internet. Other people who listen to your show will grok that thrill too.

Time was when non-profit groups in America could get a license for a community radio station of up to 100 watts, which can more than cover a large city or even a county. But a while back, the gub'mint sold out to a very small number of huge corporations who help write and pass the laws, and each own most of the radio and TV stations in every town. These government-backed monopolistic conglomerates fired all the DJs, replaced them with computer-automated DJ bots with songs picked by business dorks. When there *are* real (nationwide) hosts, many of the people calling in are coached, paid actors pretending to be real people. The conglomerates kicked out the free thinkers, and riddled the shows with cheesy ads, and "news" that only exists to drive horizontal enforcement of statism. That's why every station in every town sounds the same, plays the same horrible music or horrible talk hosts, and sounds like they choose what to play based on math and marketing and keeping people sheepish, rather than taking chances and making decisions based on taste.

In the USA, you can legally transmit on an open frequency if it's basically not strong enough to reach past your yard and maybe your next-door neighbor's yard (what Dale

Gribble on "King of the Hill" called "the most powerful station in the tri-yard area.") This is called *Part 15 Broadcast*. That name is based on the part of the document with all the damn rules. (They are rules, not laws. Laws can only be passed by Congress. These are *rules* written by bureaucrats who try to get them enforce *as if* they're laws.)

While the Part 15 limits are based on a number of factors, including transmitter output wattage, antenna size, antenna type and antenna height, basically if you're broadcasting at 100 mW ($1/10^{th}$ of a watt), you're within the *spirit* of the rules, which will usually keep you from getting hassled.

While using a radio transmitter on an unused frequency for community radio is a CLEAR natural right, as well as use of the First Amendment of The Constitution of the United States (that the United States is *supposed* to abide by), the pen-pusher fed goons don't like it. They make part of their living selling permission slips to transmit, and they rake in billions from this.

Also, there is a long tradition of transmitting freedom propaganda into occupied territory, such as the USA's ongoing Radio Free Europe, which violated Soviet law to transmit into the USSR and into East Berlin during the Cold War. They still do this all over the world, while at the same time, preventing us from doing the same here, AND trying more and more to regulate what we say and do on the Internet. The USA is now occupied territory….the Occupied States of America, with a cop on every corner, and no respect for Natural Rights or the Constitution (not that *I* ever signed that thing). If the Occupied States of America thinks it's their right, shouldn't it be your right too?

While many citizens do run transmitters at far more than 100 mW for YEARS without getting in trouble, **breaking the law is bad, um'kay? I'm not recommending you break any laws, even nanny laws! We have a social contract. Abide by it or society will degenerate into *anarchy*!**

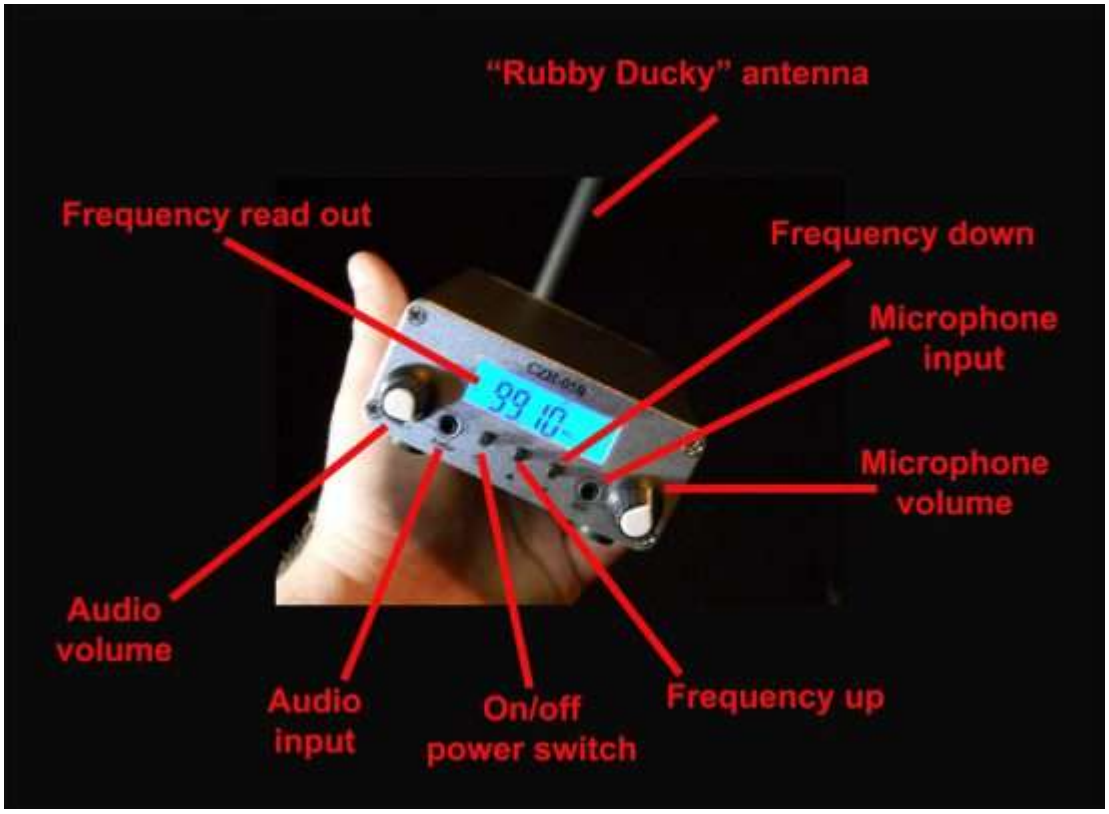
Many countries do not have the same draconian radio laws as the US ("land of the free", my ass), so I'm gonna tell how they do it in other countries. **DO NOT RUN A TRANSMITTER ABOVE 100 mW IN THE USA. YOU PROBABLY WOULDN'T GET IN TROUBLE IF YOU WENT WAY ABOVE THAT LIMIT, BUT BE A GOOD BOY OR GIRL AND OBEY ALL LAWS!** The social contract depends on it!

Here's some good gear you'll need to get started. Total price, $87:

$55 Signstek 0.5 W Transmitter. *Get it here on Amazon*:

It a has built-in low-pass filter, so you do not need to add one.

Below are all the controls (this is from a different transmitter, but all the controls are the same):



The power cable on these transmitters is about 5 feet long. You may need an extension cord, but you probably already have one.

STRONGER TRANSMITTERS (for non-USA use).

Signstek 7W FM Transmitter Mini Radio Stereo Station PLL LCD with Antenna. Has built-in low-pass filter.

And to (to get any antenna on either transmitter, even a rubber duckie antenna, higher up on your roof or over a tree limb):

$9 50-Feet Low Loss Coaxial Audio Cable White, Male-F to Male-F

If your txmtr ships with a metal short extendable antenna (like the Signstek 7W) instead of a rubber ducky antenna (like the $55 Signstek 0.5 W Transmitter), you can get this $10 rubber ducky antenna.

It's a better antenna than the metal one. Transfers less ambient less interference back into the transmitter.

Also, if you intend to put it on the roof, a rubber ducky will withstand weather much better than the metal antenna.

If you get the signal up to the roof with coaxial, it will have MUCH more range than with the antenna inside your house, especially if you're on the first floor.

You can safely spray paint the the antenna, any non-metallic color to better blend in on your roof, without losing much or any range.

Make sure to spray paint outside, and do not inhale the fumes.

A a rubber ducky antenna may last much longer than that those more expensive metal antenna in areas with high wind or lots of rain year round.

Accessories you WILL NEED:

^$7 TNC Male to F Type Female adapter (the come as a pair but you only need one of them.)

^**TNC Female to F Type Female adapter** (The only thing on here not on Amazon except for via China with one-month shipping, I'll update here if it ever is on Amazon with fast shipping.)

This is the one item that's rare so it's hard to find somewhere you can get it shipped right away.

This USA company has it here for $10 (with shipping) Note: someone told me to check the tracking link on the email they send and after a couple days if it's still showing as in Georgia (USA state), call them at 706-250-0126 and leave a polite message reminding them, and give them the order number from the email.

Another company in Georgia (USA state) has them here. If you use them, please post a comment below and let us know if they're good with shipping promptly.

You can get it here on WalMart.com (though it may take a while to ship, might ship from China), or on Amazon but it may take up to a month to ship (from China), here or here. The advantage of using Amazon, of course, is they have protections on anything you order, and they will make it right if it goes wrong, even from a third-party shipper.

^$9 50-foot Dual Shielded Coaxial Cable – F Male to F Male

(If 50 feet is more than you need, get a 25-foot one. If you need longer, this will work with up to a 100-foot F to F male to Male coax cable.)

–$6 Male-to-male stereo audio cable 3.5 mm (1/8 inch) to plug computer or iPod into transmitter.

(Only use a stereo audio jack to plug into the transmitter. A mono jack will mechanically damage the female jack in the unit.)

SO YOUR TOTAL COST IS:

LOW-POWER SETUP:
Transmitter: $55
Adapters: $17
Audio cable: $6
50-foot coax cable: $9
TOTAL: $87

HIGH-POWER SETUP
Transmitter: $60
Adapters: $17
Audio cable: $6
50-foot coax cable: $9
Rubber duckie antenna: $10

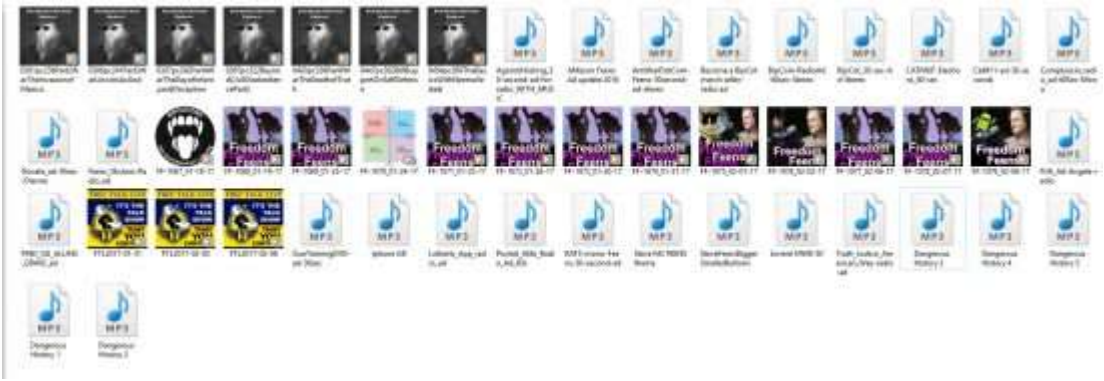
TOTAL: $102

If your an Amazon prime member, you'll likely pay no postage too. If you're not, figure about 10 bucks for postage.

SOMETHING WILL NEED BUT MAY ALREADY HAVE:

–Computer or iPod to play your programs from. Here's a $20 MP3 player that has a shuffle feature:

It's a little wonky to use but if you read the Chinglish manual, all will be revealed. Basically you set it on shuffle after attaching the included USB cable and moving a bunch of MP3s over to the Music folder:



BUT I'VE SEEN ALL THIS EVEN CHEAPER ELSEWHERE!

A lot of transmitters on eBay (and Amazon) ship from Hong Kong, which is a crap shoot if you'll even receive it. And if it's defective, good luck returning it and getting your money back, if it even makes it through customs both ways. This article has links to hand-picked reputable American resellers only. While they do charge a little more, it's still cheap, and you're sure to actually get it, actually get what you bought, and get it quicker. Also, if there's a problem, you're not screwed. (That is, if you're in America. If you're in Europe or elsewhere, you might be better off ordering from Hong Kong. But maybe not even then.)

(OPTIONAL) $80 Antenna with cable if you can mount it on a roof and want to increase your range.

Another OPTIONAL option: $85 Fail-Safe 1/4 Wave Professional Grade Tunable Ground Plane Antenna.

SOME TIPS FOR PROPER USE:

NEVER power up your transmitter without a proper antenna attached! Powering up your transmitter without a proper antenna attached *will* damage the transmitter. Use a proper antenna only, or you will fry your transmitter. Both the short "rubber ducky" antenna (it looks like the antenna on a walkie-talkie) that comes with these transmitters, and the ¼ wave antenna listed, are proper antennas for all of the transmitters listed here.

NEVER run an FM radio receiver in the same room with the transmitter. Same house should be OK, but in the same room can harm the receiver. Running other electronics should be fine, but don't run an FM radio receiver in the same room as the transmitter.

To adjust the power output on these transmitters from 100 mW (possibly legal in USA, depending on your antenna and other factors) to 500 mW (not legal in USA), or to adjust the 7 watt transmitter (not legal in USA) to 1 watt (still not legal in USA), here's all you need to do: Push in and hold the power-on button for 3 seconds. Then plug in the power cord. The LCD will read "H" (high, 500 mW on first transmitter, 7 watts on other transmitter) or "L "L" (low, 100 mW on first transmitter, 7 watts on other transmitter),

By using the frequency up & down buttons you can switch to L or H, then unplug the power cord, then plug the power cord back in, hit the power button to turn the unit on, and you are now broadcasting at Low or High power, which ever you want.

Legally I have to recommend that you don't turn the power up to 500 mW unless it's the zombie apocalypse and you have to warn your neighbors of the threat. 100 mW can give you a range of less than a block (with rubber ducky antenna indoors). It can reach about two blocks in all directions (with rooftop ¼ wave antenna). 500 mW can reach about 4 blocks (with rubber ducky antenna indoors) and over a mile and a half to two miles with a rooftop ¼ wave antenna. (That's line of site with the antenna. It more or less stops dead when it hits a big hill or a line of tall buildings.) In an urban area, two miles each way is 16 square miles which is is potentially 250,000 people who live within the broadcast area,

plus many more who drive through (and may be stuck in traffic if you live near a freeway). One of these transmitters can cover a medium-sized college campus plus off-campus areas where students live, shop and hang out.

It's even possible to broadcast to a rectangle of **ten miles by four miles** with 500 mW, using this same transmitter. I know a guy in England doing that. He's on a low hill, and has the antenna in the attic of a three-story wooden house. INSIDE the house, not on the roof. He has great line of sight to his whole broadcast area, and there aren't many buildings taller than where his antenna sits. He'd probably broadcast even further with the antenna on the roof, but doesn't want to "stand out." He's getting five miles each way in two directions, and two miles each way in the other two directions.

On the off chance you get a knock at your door, I would not let them in without a warrant, and one should stop transmitting. Do the same if you get a nastygram (cease-and-desist letter).

If you want to lower the chances of getting in trouble, you need to make sure you're being a good neighbor to your fellow broadcasters (and to your neighbors. If you don't follow all of this, you could even interfere with cell phones, wireless internet and ham radio operators near your house):

1. **PICK AN OPEN FREQUENCY**. Again, here's the site that helps you find one if you're in the USA, searching by zip code:

http://radio-locator.com/cgi-bin/vacant

Once you've found a frequency, drive around listening just to verify it's clean. "Stepping" on an existing broadcaster is a sure way to get a visit from the goons. Treat your fellow broadcasters as you would like to be treated!

If you don't have a car radio, or don't have a car, here's a 20-dollar portable FM radio for checking for open frequencies, and for listening to your show once it's up:

Keep in mind this isn't nearly as good of a receiver as most car radios. So anywhere you can hear your show on this, a car radio will pick it up further.

2. **MAKE SURE THAT YOU ARE RUNNING A TRANSMITTER WITH A BUILT-IN LOW-PASS FILTER!** Other than picking an open frequency, this is **ABSOLUTELY THE MOST IMPORTANT THING I CAN TELL YOU**. This prevents your transmitter from splattering itself all over different frequency multiples via "Harmonics". Meaning, if you are operating a cheapie transmitter with no low-pass filter at 100MHz, then you are also broadcasting at 200MHz, 400MHz, and so on. This is NOT being a good neighbor, and you may be interfering with other communications on other bands even though 100MHz might have been a clear channel.

All the small made-in-China transmitters listed here are incredibly inexpensive, and represent a great leap in technology and price from any previous transmitters that can solidly hold on one station with no drift. They are cheap, but they do NOT all have built-in low-pass filters, so you need to add one between the transmitter output and the antenna. But the two I list in this article DO have the low-pass filter built in.

3. Use the line (Audio) input, not the microphone input. You can even epoxy the mic input shut and volume in place so you'll never forget. A fan sent in this pic:

4. Don't have your audio output volume too high from the computer or iPod that's running into the audio input of the transmitter. Check the volume of transmission on a car radio a block from your transmitter. It should be comparable with commercial stations. NEVER louder. (And not quieter.) Audio material with consistent dynamics, i.e. a close-to-even volume, is better to use than audio material with lots of dynamics.

Don't use material with cussing, that's what gets people shut down. The gub'mint doesn't actively monitor the airwaves, they generally only act on complaints from snitches. If you're not cussing and not interfering with another station (remember, **PICK AN EMPTY FREQUENCY** and **USE A TRANSMITTER WITH A LOW-PASS FILTER!**) you'd likely be OK. Especially if you don't broadcast anything with cussing.

The goons are mostly busy chasing down cell phone jammers these days anyway. The goons generally issue a cease-and-desist letter for the first few infractions, then threaten fines. They really don't want anyone to take it to court, for fear it will make it to the Supreme Court and they might lose on First Amendment grounds, which would open a hornet's nest for them, and spread a lot of liberty.

(If you *really* want to be careful): Using music by other artists might get you a copyright lawsuit. The best thing to transmit is either talk radio and music you produce, or talk radio and music produced by people who don't mind if you broadcast it.

Tuning your antenna:

If you use the optional $85 Fail-Safe 1/4 Wave Professional Grade Tunable Ground Plane Antenna: "Tuning" your antenna (adjusting the height) helps maximize transmission.

You adjust it based on the frequency you're transmitting at. The rubber ducky antenna is not tunable. But the ¼ wave antenna is, simply by making the top, and the bottom (the radials), taller or shorter. Here is a link to a short PDF on how to tune it for all the different frequencies.

WHAT TO BROADCAST if you don't have your own material, or enough to fill 24-7.

This podcast, the Freedom Feens

http://www.freedomfeens.com/

is the very best an-cap liberty podcast in the world. It's funny, smart, has a large following, and is produced with *very* high audio quality, and with limited dynamics, which is perfect for radio. It's also released covered by the BipCot NoGov license.

This allows use and re-use by anyone except governments and government agents. There are no government guns for violators, only shame. So it's cool with the Feens if you broadcast it. They've actually mentioned on their shows that they're cool with people sharing it anywhere, any time.

You can also get the episodes via BitTorrent HERE.

Also good is the Liberty Radio Network.

LRN is like the libertarian/an-cap NPR, in that it's 24/7 of well-produced, great and varied liberty programming. And in that some people like to leave it on in the background all the time. But unlike NPR, LRN actually allows and encourages people to share it anywhere they'd like.

HOWEVER, NOT ALL THE SHOW ON LRN.FM ARE cuss-free. If you want cuss-free only (less chance of offending snitches, and anyone can dig the sound if it's cuss-free), get the few cuss-free shows that are on LRN, but just download individual episodes. All these shows have good audio too:

—Freedom Feens (RSS of episodes here)

–Bad Quaker. No longer producing episodes, but still has a great collection of very solid stuff. I'd recommend any of the collections:

- The Beyond Civil Disobedience Series
- The Complete Bad Quaker Series on WAR!

Some other great stuff:

- 5 cuss-free (edited) episodes of Dangerous History Podcast (must be unzipped)

- All Freedom Feens public-service ads. (must be unzipped)

Those shows are all cuss-free, solid, great audio, great content, and timeless. You could play any of them 20 years from now and they'd still ring true.

–Also mix in some more "daily news" stuff with cuss-free Free Talk Live (RSS of episodes here) though you'll need to swap out episodes every few days and put in current ones.

Also keep in mind, they take calls and while the show sounds great, some of the callers have HORRIBLE audio and/or are insane. I can only take it in small doses. I'd use a mix of maybe 5 each of Feens, Bad Quaker and Dangerous History, then put in two current Free Talk Live shows, but swap them out weekly or more. And run the whole thing of all four shows on shuffle.

An easy way to start would be to run a mix of those four shows, and do a one-hour show yourself one hour a week and then expand to one hour a day or more.

To learn how to do good audio, READ THIS POST! (important): 20-Minute Audio School

Also, my friend made a GREAT video on getting good audio.

Read and watch those before asking any questions please.

A compressor/limiter will reduce the dynamics in your spoken material, which is a good thing for making a professional-sounding radio show and for not having a signal that will splatter on other stations. Some Xenix mixers have built-in compression. If you can afford it though, get this one, the DBX 1066. Here's a great article on compression in general.

And here's a post on how to take phone calls on a live radio show.

http://www.creamyradioaudio.com/ is a great site for low- and no-budget audio tips. Two great articles on there:

Quick and dirty sound conditioning.

Permanent Sound Conditioning in Three Hours for $250.

RANGE

You'll get greater range if you have a good ¼ wave antenna vs. the rubber ducky. And greater range if your antenna is properly tuned, and if you can get it up as high as possible. An antenna outside a house will have better range than an antenna inside a house. An antenna on top of the house is best, though it could attract attention.


Antenna on the roof of a garden shed. An actual "radio shack!"

Some people have been known to camouflage an antenna inside of PVC pipe, which does not attract as much attention on a roof as an naked antenna on a roof. This is because roofs, especially in cities, often have various tubes and pipes sticking out of them. The PVC will not cut down much on transmission power, but it will protect the antenna from the elements.


Rubber ducky antenna inside a PVC housing.

If you have to have it inside, an antenna in the upper floors or attic of a building is better than on a lower floor. An antenna in the basement is horrible. Near a window is better than not near a window. Inside a wooden house is better than in a brick house.

LOCATION:

An ideal location is any populated area, especially near college dorms or a near a highway with slow rush-hour traffic.

PROMOTION:

Stickers with your frequency, city, and some symbol of what you do, or the name of your show. Best to be mysterious and symbolic, to keep squares from groking what you're up to. I don't recommend graffiti, but I've seen it done. Also a small sign on a stick in the ground right next to a highway where there is slow rush-hour traffic. The sign could even just be the frequency number and "FM."

TRANSMITTER LONGEVITY:

If you run your transmitter 24/7, have a fan blowing on it to keep it from overheating. Put something under each edge of it so air from the fan can get under it, too.

AUDIO PLAYER SOURCE:

iPods last about 12 hours, I don't think they can be plugged in and run at the same time. You might want to run your media from a spare computer using iTunes or Windows Media Player or other player, set on random shuffle. It doesn't take a very powerful computer to do this, so you can use the old one you replaced a few years ago.

SAFETY:

I'd keep the antenna away from my head and pregnant women, but transmission health issues shouldn't be much different from a cell phone. If you live in an area with a lot of lightning and you put the antenna on a high roof, you should have a lightning rod elsewhere on your house.

Some people run gear from a hidden public location or empty building and consider the gear expendable. Many people do this in the UK, and even leave a beer for the goon who finds it. They usually wipe all their fingerprints from the gear, though really motivated goons could probably locate the buyer based on serial numbers and credit card records. But hey, stuff gets stolen. I suppose it's possible that someone could actually file serial numbers off things, but I wouldn't do it.

Do not use made up "call signs" ("KLSD", "WEED", etc.) You can *name* your show, but don't give it alphabetical designations.

SISTERHOOD OF THE TRAVELING TRANSMITTER:

Several people in different areas could chip in and buy a system, and each run it for a few months, then pass it on to the next in the group, in a rotation. This would reduce costs, and reduce other issues, too.

Hope this post helps you in some way. Pass it on if you liked it. Radio is a RIGHT. And it's plenty of fun for the whole family! Be safe, be legal (the social contract depends on it or we'll degenerate into *anarchy*!), and most of all, ENJOY!

–Cash Newmann

Read Lysander Spooner's "No Treason."