



# CHEESE BITS

**W3CCX**  
**CLUB MEMORIAL CALL**

ARRL  
Affiliated  
Club



**Volume LI**

**December 2010**

**Number 12**

**PREZ  
SEZ:**

Here I am, once again, typing away on a bit for Cheese Bits. The Holiday season is underway with Black Friday deals already available a month ago.

I've been watching the ham radio adds through HRO and reading about all the new widgets that are being built into the latest radios and gasping for breath at the price tags. We all know hams are notoriously cheap when it comes to buying equipment. That is why we build a lot of what makes a ham radio station perform well. Yes we can buy a lot of widgets, interfaces and accessories, but, until you have built something that works and fulfills your need for this or that function you have missed a big part of this very inventive hobby.

To help with the construction we are having a TECH NIGHT for the December meeting at the Ben Wilson Senior Center in Warminster. Information about the meeting is posted on the PACKRATS website:  
[www.packratvhf.com](http://www.packratvhf.com).

All meetings start with a business meeting before the main program begins. During the coffee break there is the MARIO RAFFLE. This is an opportunity for all participants to choose goodies from the [Mario Table](#) in a quasi orderly fashion. The action is swift and

the goodies are usually prolific and of various cash values. But all are priceless when they can be used to makes something useful for the shack and also be submitted for an award during the annual HOME BREW NIGHT program in March...

I have a few plaques for the "Most Miserable Failure" in my collection but I keep trying. The fun is in the building and presentation at the meeting. To win is icing on the cake.

The January VHF Contest is just around the corner and, I am sure there are many "improvements" you can make to your station that make participating easier or more fool resistant. So get out your soldering iron and that DEMI kit that has been sitting in the corner gathering dust. Or, tackle the excellent construction projects in the ARRL HANDBOOK or create your own widget and amaze yourself when you say "[see it works](#)"!

Getting a taste of basics in ham radio adds a lot to the enjoyment of contesting, DXing or just plain rag chewing be it on the VHF and microwave bands or down on the crowded, noisy HF frequencies.

**Most importantly – GET ON THE AIR.**

Part of the Holiday traditions this time of year, of course is CHRISTMAS.

Pack Rats **CHEESE BITS** is a monthly publication of the **Mt. AIRY VHF RADIO CLUB, INC.** -Southampton, PA.

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**PACKRAT BEACONS - W3CCX/B**

FM29jw Philadelphia, PA  
50.080 144.284 222.064 432.286 903.072 1296.245 MHz  
2304.043 3456.207 5763.196 10,368.062 MHz (as of 1/08)

**MONDAY NIGHT NETS**

<u>TIME</u>	<u>FREQUENCY</u>	<u>NET CONTROL</u>
7:30 PM	50.145 MHz	K3EOD FM29II
8:00 PM	144.150 MHz	N3ITT FN20kl
8:30 PM	222.125 MHz	K3TUF FN10we
8:30 PM	224.58R MHz	W3GXB FN20jm
9:00 PM	432.110 MHz	WA3EHD FN20kd
9:30 PM	1296.100 MHz	K3TUF FN10we
10:00 PM	903.125 MHz	W2SJ FM29LW

Visit the Mt Airy VHF Radio Club at: [www.packratvhf.com](http://www.packratvhf.com) or [www.w3ccx.com](http://www.w3ccx.com)

Be sure to leave that catalog, discretely open to a page featuring the item of interest, in a hard to overlook place. (Along with your credit card ... Hi HI). Maybe, if you have been good it will miraculously appear under the Christmas tree. It is a bit to late for 2010 for it to be a Hanukkah gift but keep hinting.



Well I must apologize for getting this to the editor so late. Work and family have kept me a bit distracted but we must all pick our priorities and unfortunately, for me this hobby usually comes in third.

I hope to see all of you at the December meeting.

In the meantime – turn on the rig and  
...**LISTEN FOR THE WEAK ONES !**

73, de W3GAD

**Editors Column**

Well I've finally got the gremlins in my newly acquired 600 watt amplifier pretty much sorted out. I needed to drill out the bottom cover to access the input tuning cap. Input match is now down to 1.05:1 from a previous 2:1. The input change-over relay (a nice BNC Dow-Key) literally fell apart and had to be replaced and the output relay driver circuit had to be modified since it was under driving the relay coil. 9 Watts out of the I.F. rig drives the transverter well enough for it to deliver the 20 watts the amp needs to make 550-600 watts PEP on 2 meters.

So it looks like the advice I heard on the Packrat reflector after last January's contest, namely, "Have a dominant signal on your primary band", will be a reality at W2BVH this year's January contest!

In the meantime enjoy this months Cheese Bits and **Seasons Greetings!**

73, Lenny W2BVH

# Our Tower Adventure

By Michael Davis KB1JEY

## Introduction:

Monday afternoons, I have a ritual before the Packrat Monday Night nets. When I come home from work, I go out to my backyard and draw on a pair of orange work gloves. Next, I unshackle my crank-up tower winch from the bike u-lock that secures it from accidental and “two-legged” mishaps. Then I hand-crank the winch to raise the top two sections up an additional 30 feet to its full 70 foot height (measured from the concrete base to the top of the mast). I know when I am done because the winch crank stiffens and the two loops of coax, hanging from the stand-offs, have largely disappeared.

Various friends have suggested replacing the hand-crank winch with motorized versions. Others have advocated using a power drill to raise the tower. Maybe when winter arrives, those suggestions will become more attractive. However, during the 10 minutes it takes me to crank the tower up those 30 additional feet, I give silent thanks to the friends, circumstances, and luck that allows me to have an amateur radio tower that clears the tree canopy.



Tower loops with tower down

I think of those fellow hams that live in areas where their antenna options are more constrained and I'm grateful for good fortune in having an XYL who loves me enough to reluctantly agree to our tower adventure at the expense of lost “curb appeal”.

I call the two years that it took to move and erect this tower “**Our Tower Adventure**” because without the support, sweat, and advice of the many fellow hams that helped along the way, there would be no tower in my backyard.

My last step after re-shackling the winch crank is to step to the back of our yard, admire the antennas reaching past the trees, and say to myself, “Oh my God, I still can't believe it.” Many Packrats know pieces of “Our Tower Adventure”. This narrative is to share the more obscure but potentially interesting portions of the adventure and to laugh at some of the lessons learned along the way.

The adventure started mid-2008 as many of my amateur radio adventures do with an email from Rick Rosen K1DS. He asked, “How would you like a radio tower, perhaps for free? The estate of Gene Shillingford KB31B is selling his tower. You'll need to spend about \$500 for a new base.” I looked up the designation of the tower, a Hy-Gain HG-54HD crank-up, lay-over tower. I was soon pouring over the following excellent website, <http://garymcduffie.com/misc/tower/index.html> which details the adventure of Gary McDuffie AG0N in erecting his Hy-Gain HG-54HD.

In a few moments, my mind transitioned from AG0N tower to one rising from my backyard. The next morning, K1DS thought better of his email to me and sent this follow-up note: "Basically, this is a huge undertaking, and perhaps more than you are bargaining for, and the property would withstand. I know that you got a bit excited about it, but, it's 600 lbs of steel, and your investment in new cables, a base, moving it, concrete, and probably additional homeowner's insurance and so on, plus the XYL reaction when she sees it, may be more than you are bargaining for. **Did I mention it may be more than you are bargaining for?**"

It was good advice but too late. I had a vision of a tower in my backyard dancing in my brain and was already on to the next chapter.

### Can We Do This?

No matter how attractive the dream of an amateur radio tower in my backyard might be to me, if my wife, Carol, was not willing to go along, that would be the end of the adventure. After a visit to inspect the tower first-hand in Levittown, PA, I picked my moment and sat my wife down and told her:

"I really enjoy weak-signal VHF contesting and want to take it to the next level. I have three choices. I can travel to and operate from fellow ham multi-operator stations. I can operate as a rover like Dr. Rick. Or I can erect a tower, buy some additional radio equipment and operate contests from home. If you want me around weekends, the home station might be the best option.

I'm not getting any younger so a tower that cranks down and lays horizontal near the ground would be the safest choice. I would not have to climb it. A crank-down tower is also less of an eyesore to the neighbors. Purchased new, such a tower could easily cost \$3,000-\$5,000.

A fellow Packrat recently died and his tower is available, perhaps for free. I have seen it and it is in excellent shape. I think we should consider getting it. I would need to spend about \$500 for the steel base and some other money to dig the

hole and pour the concrete."

As the clincher, I promised Carol that I would abandon the somewhat rusty Rohn 6 tower that I had been planning to clean, paint, and erect.

Carol did not raise any strenuous objections but I did have a nightmare where I bought the tower, only to hear from my wife "I Didn't Know How Big It Was!!!". Some hams pounce and ask forgiveness afterwards. However, for an undertaking of this magnitude, I decided not to chance my nightmare. So Carol and I took a trip to Levittown on the way to a dinner at one of our favorite restaurants. She saw the tower and antennas, cranked up to their full glorious height. She was not very happy but I had secured the all-important XYL approval !

The next step was to see how the Town of Lower Gwynedd dealt with amateur radio towers. I had a friendly conversation with the Assistant Manager who told me that the local zone stipulated three requirements for an amateur tower permit:

1. The tower had to be behind the house
2. The tower could not be attached to the house and had to be at least 10 feet away.
3. The tower could not exceed a height of 35 feet

I explained that the tower I was contemplating was less than 35 feet high when cranked down but exceeded the zoning height restriction when cranked up to operate.

He suggested that applying for a zoning variance might be a good approach.

The idea of applying for a variance was quickly dashed by my next-door neighbor, who was into construction. He told me that with the fees paid to an attorney to prepare the application for variance, I could easily spend over \$1,000 **and might not even get the variance**. He also hinted that once the tower was up, no one was likely to investigate where I received a variance to operate the tower fully extended, especially if I left it cranked down most of the time.

I talked to a Packrat who is also a lawyer. While he was not comfortable offering specific advice tailored to my circumstance, he suggested the following “talking points” in my discussions with the Lower Gwynedd Building and Zoning Department. His suggestion was to state that I had received a good deal on the tower and that while it could be cranked up beyond the zoning height restriction, my plan was to operate the tower in the cranked down position.

Thus, it appears that I had (or could get) the necessary approvals to erect an amateur radio tower in my backyard. The next step was to see if I could persuade KB3IB’s estate to part with the tower.

## The Negotiation

When Gene died, our fellow Packrats Joe Taylor K1JT and Harry Brown W3IIT were asked to help the Shillingford family sell the equipment from the station. In fact, I had purchased one of Gene’s Bird watt meters. By mid-summer 2008, nearly all of Gene’s equipment had been sold to various hams but the tower remained. I talked to Joe, who quickly established that the Shillingford estate was not going to give away the Hy-Gain tower. Joe suggested that I talk directly with Gene’s widow, Anna.

I made an appointment to visit with Anna. I had never met Gene so I took the opportunity to learn a little about a fellow Packrat. When the discussion moved to the tower, Anna was cordial but firm. When Joe and Harry prepared estimates of what the various pieces of the station might yield, they told the Shillingford family that the tower might yield a four-figure price. Anna remembered that Gene had paid over \$3,000 for the tower when it was bought new a decade earlier. We agreed to talk on the telephone again the next day but there was no way I could come up with the cash for a four-figure purchase.

I thought it was the end of the dream. I called Joe to tell him of the impasse and to thank him for his help. Little did I know at the time about the full story:

Other Packrats, including K3JJZ and KB3NRL had preceded me to Levittown. They looked at

the size of the tower and the amount of backyard required to erect it. At 600 pounds and 22 feet long, transporting the tower would not be easy to accomplish. Because the HG-54HD is a self-supported tower (no guy wires), the cost to construct the base would not be trivial. The Shillingford family was looking to have the tower removed before winter but there were no likely buyers on the horizon.

Joe called Anna’s daughter. He told her that he and Harry were probably overly optimistic about the potential price that the tower might yield. Joe told Anna’s daughter that I was a pretty honorable and reliable fellow and that if the Shillingford family wanted to have the tower removed before winter, that they ought to come down a bit and offer me a good price on the tower, mast, rotator, antennas, and feedlines. When I called Anna the following day, she reluctantly agreed to a three-figure price. Half would be paid immediately as an act of good faith. The balance would be paid when my work crew came over to remove the tower.

In retrospect, I was very lucky to be offered a good price for the entire package. While the rotator and antennas needed some attention, the value of these items and the feedlines alone were worth the purchase price of the tower (ignoring the “sweat equity” value of the tower removal).

## Getting From There to Here

I now had a tower. Now the major problem was getting a 600 pound, 22 foot long tower 22 miles from Levittown to Lower Gwynedd. One initial thought I had was to contact an auto repair garage with a flatbed truck. As an alternative, one of my neighbors had a truck, was willing to transport the tower but the price was not attractive.

There was **one other complication**. The Shillingford backyard was enclosed by a chain link fence with a single, narrow gate. **It would not be possible to drive a truck into the backyard.**

One of the benefits of volunteering to help other hams at their tower work parties is you make

new friends. When I volunteered to help Dan Myers KB3IBQ at his tower party, I met Stephen Hoch WU3I, who turned out to have a side business of helping hams with towers and rotators. Subsequently, I saw Stephen again at Timonium where he sold me a used Alliance HD-73 rotator. I called Stephen, described my situation, and asked if he could help.

Stephen had a technique that was simple but bordered on genius. It was to strap the tower to a trailer so it was balanced and so the sections would not move while the tower was being moved. Stephen strapped a 4x4 piece of wood with trailer hitch bolted to the other end. I later learned that this is how utility companies transport poles. To solve the problem of moving the tower out of the chain link enclosed backyard, Steven proposed a dolly, rolled over luan plywood panels. The luan panels were splinters by the time we were done but they were surplus and accomplished the task.



An essential component of any tower work: coffee & donuts for the crew!!

Another benefit of volunteering to help other hams is that when it is your turn, you have the numbers required to move a heavy piece metal and the extra hands necessary to quickly disassemble antennas and coil coax for transport.

Still, it pays to keep an eye on your less experienced helpers to make sure that they do not throw out something that you need when you erect the tower at your QTH.

The most nerve-racking moment was when the tower was cranked from vertical to



horizontal. Think of the tower as a giant lever. If the winch cable failed, the antennas might turn into so much scrap aluminum. **The cable held.**

We had one last duty before we left for my QTH. We cut-off the steel tower attachment points



close to the concrete base with a combination of a die grinder and a reciprocating saw. Where the feedlines entered the house, we installed a new piece of vinyl over the

hole in the soffit to make it weather-tight. It was our last duty to the Shillingford family.



At the end of the afternoon of "Move Day", the tower and antennas were laid on concrete blocks in my backyard. Little did I know that it would take nearly two years (August 7, 2010) before the tower would once again be cranked up.

**Stay tuned for the next installment!**

## Ham Radio URL of the Month

The FCC recently released its most recent version of the "Spectrum Dashboard" which allows you to browse and zoom in on all allocated spectrum from 225MHz to 3700 MHz with a graphical tool. See <http://reboot.fcc.gov/spectrumdashboard/searchSpectrum.seam>

Thanks to Ed WA3BZT for the link

ENJOY! — Lenny

## K1DS Scores another Mobile EME Success

I worked another CW 144 EME QSO from my van using the 350W and a single 5WL yagi (32' long). Here is a transcript of my correspondence with Jorgen OZ1HNE.

Thanks very much for your mail. I am ready for a sked tomorrow morning at your moonrise and I propose: Sunday November 28 0406 - 0450 UTC. on 144.052 MHz and K1DS start transmitting the first 2 minutes. Please confirm if time and freq. is OK for you.

Best 73, Jorgen.

Jorgen--Well done and thank you. You are my #3 on 144 CW. I drove to my location at 02:45 and set up everything in less than 45 mins. I saw the moon rise like a big orange ball and started to call you at 04:06. It was less cold as the winds had died down a bit. Since I heard little for the first three exchanges, I checked the beam and saw the winds had moved it slightly, so I climbed on top of the van again to tighten the U-bolts and place it back directly on the moon--then I heard you quite well. Although I sent you RO, in my last exchange I sent you also 529 as best copy. I tried some different transverter settings this time, split frequency rather than using the RIT only, and tried to use some narrower filtering. I made a short YouTube video and will upload so you can see how signals were up and down at times. I accidentally touched the dial and changed the freq at the end of the video. Single 10m 5 WL yagi, 350 W and GaAsfet preamp. 8m LMR400 coax. I will QSL.

<http://www.youtube.com/watch?v=W7n2krB1vUw>

TNX es 73, Rick

Thanks very very much for your mail and really FB CW EME QSO this morning.

Congratulation for your fine mobile setup and for your great signal !!!

I start hearing you at 0414 - 04156 UTC. with full call signs and next period I was TX "OOO" in vertical.

Next period you were still sending call signs and 20 - 22 I changed my TX polarity to horizontal and sending "OOO" again.

Next period 22 - 24 I got RO RO RO from you and **the rest was just plug and play with final RRR and 73's.**

In the end I was sending 529 !!!!

Fantastic signal from you in the peaks here at my little station. I never heard such a signal from a single yagi and 350W.

You were vertical here all the time. I look very much forward to seeing the video on YouTube, thanks Rick.

I will send my QSL card one of the next days for this **really FB CW EME QSO.**

I know you have worked Jimmy SV1BTR, but what stations else ??? I look very much forward to hearing from you again and to work you via the moon for another great CW EME QSO.

Best 73, OZ1HNE Jorgen.

# The Wayback Machine

Gleaned from the pages of  
Cheese Bits, September, 1960  
(Vol. III Nr. 5a)

de K3IUU

*(author's comments in italics)*

- **Background.** Helen Brick, xyl of Frankie (W3SAO, sk) edited Cheese Bits in the early days. The Bricks came from upper state PA (Mahanoy City, Quakake, and Tamaqua region). They frequently visited that area, and reported on the Ham “doings” there. As a result of the feminine outlook, the “bits” frequently included what we might term “gossip”. This in turn helped make the club a friendly group, always aware of what was happening in each other’s family. Frankie and Helen were active in Public Service (Red Cross, etc). I usually omit most of these discussions, figuring that the names are unfamiliar to most of the current club members.
  - A detailed report on the field trip by a group of ‘Rats to the construction site of the Forrestal Research center, Princeton, NJ: W2HY (known on the air as B.B which stood for Boston Blackie [*I didn’t remember that!*]) served as the tour guide. The planned initial objective (power generation using Hydrogen) and operational details (a “racetrack” through which the Hydrogen was circulated) were reported on at length by Helen. **Tidbit 1**; The building plans called for the use of Stainless Steel, the largest single mass in the World, about 50,000 Tons. **Tidbit 2**; The FCC was worried about outside radiation, so they have stationed a mobile “Field Strength Laboratory” outside, and will be driving through the Princeton area checking levels!
  - Newly elected President is W3HKZ (*Ed, sk*). VP is Bill McCutcheon (*“Grandpop Bill”, up on the hill in Feasterville, now sk*).
- Pep talk reminding the gang to “get on the nets” (*nothing changes*).
  - Lengthy article extracted from “Electronics Illustrated”, discussing the neighbors reaction when a Ham moves in the area (*TVI, radio interference, etc*) coupled with the results after the public service aspects are discussed and demonstrated.
  - Smel-A Rhat (*I never knew for sure who this pseudonym belonged to, but have my suspicions*) berated those members who simply paid dues, but **were not active**. He suggested a “retired status” which was later implemented.
  - A response was included from “Nibble A. Bit O’ Cheese”!
  - Helen and Frankie (and other club members) attended the Mahonoy Valley Brass Pounders Banquet. Several ‘Rats won door prizes. Joe Welsh (FCC) was there and administered the General test to a group of 23 techs. 17 passed, one of whom was only 14 years old.
  - ARRL Bulletin was received, reminding the fraternity that the FCC is cracking down on Key Clicks, Phone Splatter, and out-of-band-operation, with a request to “clean up our act” and give out honest signal reports!
  - W3HKZ’s mother teaches Russian. El’s (*K3JJZ*) mother is one of her students, by happenstance. (*El, did you remember that?*)
  - Meeting Highlights. Good attendance reported at the 11/19/60 meeting. It seems everyone was interested in learning about transistorized converters. Speaker of the evening, Bert, K3IUU (*yours truly*) demonstrated samples that he had built. (Helen’s ad-lib: *Samples?*)

...continued p. 9

## Events

For inclusion, please direct event notices to the editor.

### **ARRL January VHF Sweepstakes - Contest**

Jan 22-24, 2011. Details to follow

**June VHF QSO Party - Contest** Jun 11-13, 2011 - Details to follow.

**CQ WW VHF Contest** - Jul 16-17, 2011. Details to follow.

**August UHF Contest** - Aug 6-7, 2011. Details to follow.

**10 GHz and Up Contest (round 1) - Contest**  
Aug 20-21, 2011 Details to follow.

**10 GHz and Up Contest (round 2) Contest**  
Sept 17-18, 2011. Details to follow.

**International EME Competition (2.3 GHz +) - Contest** Sept 24-25, 2011. Details to follow.

**Microwave Update 2011 - Conference** October 13 -16, 2011. Crowne Plaza Hotel, Enfield CT. Rooms \$99. Details to follow.

**EME Contest, 50-1296 MHz (round 1) - Contest** Oct 22-23, 2011. Details to follow.

**EME Contest, 50-1296 MHz (round 2) - Contest** Nov 19-20, 2011. Details to follow.

---The Wayback Machine cont'd

*(In actuality they were his, and none were given out!).*

- Postage for this 5-page (double-sided, legal size) newsletter was 3-cents, as usual !!!

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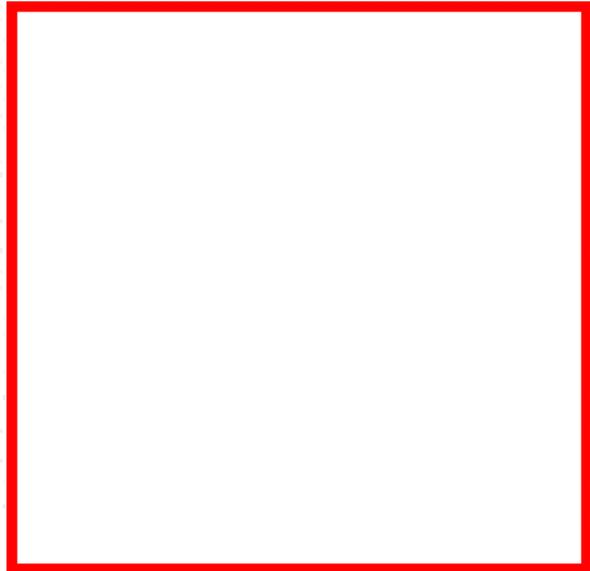
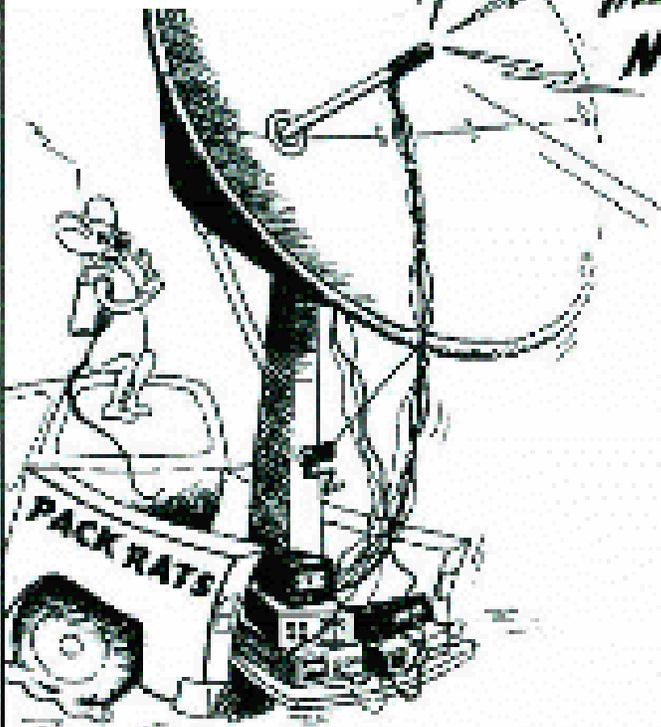
### **Strays ...**

**Michael KB1JEY** asks members to submit their idea of "Packrat Heaven" to Cheese Bits.

Your editor's idea would be a constant supply of articles 3 months in advance!

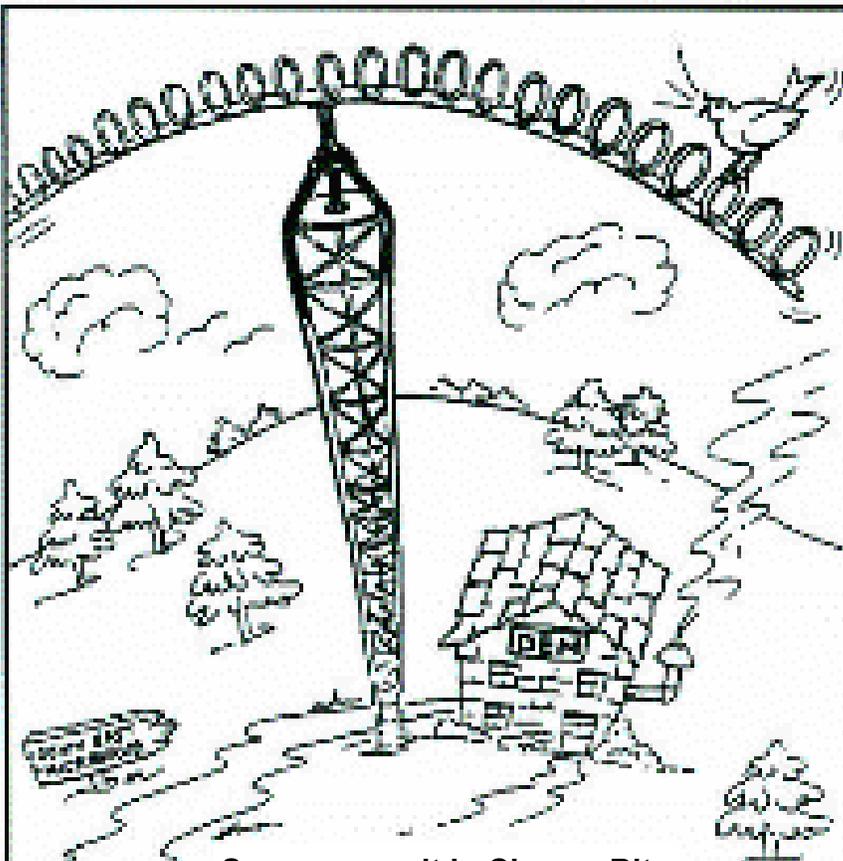
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**MEETING  
NOTICE**



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Say you saw it in Cheese Bits

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