



# CHEESE BITS

**W3CCX**  
CLUB MEMORIAL CALL

ARRL  
Affiliated  
Club



Volume LI

September 2010

Number 9

PREZ

SEZ:

Welcome to September –  
The weather is hot and  
sticky.

Wait a minute now it is  
cool and windy.

Whoa! Is that a hurricane  
stirring things up in the Mid-Atlantic?

H-m-m-m-m! Maybe I should check  
the propagation forecasts. Yep, things have  
been cooking in the lower VHF frequencies.  
For those of you who are home, try and catch  
the tropo, work the ducting and do the digital  
modes for meteor scatter or EME. **Lets hear  
some activity reports. What was you best DX  
recently? How did PERSEIDS work out for  
you?**

**There is a lot more** to being a VHF  
through Microwave enthusiast than the  
January VHF SWEEPSTAKES and the June  
CAMELBACK EXPEDITION. Not all of us  
can afford to add lots of new bands but we  
can learn new operating modes like meteor  
scatter to expand the capabilities of our  
stations and add new challenges and goals to  
keep the interest up.

Toward that end the PACKRATS hold  
the annual **Mid-Atlantic VHF Conference**.  
**This is a full day of educational presentations  
and technical sessions**. It is also an excellent  
opportunity to meet new hams; to get to know  
some of your old acquaintances better or, if  
you are new to this area of the hobby, learn  
more about life outside the local FM repeater.

The recent issues of Cheese Bits have  
been really terrific with a series of excellent  
articles on making use of those high power  
TV amplifiers. **We need a lot more input** and  
would love to see a comprehensive series on  
the conversion of the MMDS gear for 2.3  
GHz. My conversion is underway with the PA  
tuned, the receive conversion all together and  
the LO ready for final tuning. All I need to  
complete is the tuning and figure out the  
controls (Where?). It will be ready for  
January. Where do stand on your  
conversion?

Every month recently a new proposal  
is presented to the Board of Directors to help  
with one program or another. Some require a  
long term commitment and some just require  
a little team effort to get them completed.  
The Board tries to sort out these requests  
and present to the membership those  
requests with the most benefit to the VHF and  
up community or those that will help an  
individual become more active. **If you have a  
need**, or know of a need that you can not  
handle by yourself, let the Board know or ask  
for a minute at the general meeting.

Questions come up from time to time  
on membership requirements. These are  
clearly stated in the CLUB CONSTITUTION.  
These requirements are there because THE  
MOUNT AIRY VHF RADIO CLUB is a  
technical/educational group dedicated to  
achieving technical excellence in the

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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)

frequencies above 50 MHZ. This means being actively on the air, attending technical sessions, meetings and club activities, asking for help, and offering assistance when others ask for help with their projects and equipment.



The “social” portion is a natural adjunct of any gathering of amateur radio operators and is not the sole purpose for this club. We are about sharing our knowledge to help others grow.

The September 16th meeting will have a presentation by PACKRAT W3RJW with timely information on making a tower safe, working safely on a tower and how to prepare feed line connections. **Come on out**, welcome Ron and learn how to save yourself a lot of difficulty by keeping those outside antenna connections secure to the tower and keeping the weather out of them.

**Remember September 25<sup>th</sup> is the Mid-Atlantic VHF Conference and one week later, on October 3<sup>rd</sup> is HAMARAMA.** We need your participation with both these events to assure their success. I'll be there.

Meanwhile,  
“LISTEN FOR THE WEAK ONES”

**73 de W3GAD**

**Editors Column**

The last 4 or 5 weeks were very active for some of your fellow Packrats. During that time we had the EME Conference in Dallas, the 10 GHz contest and the first round of the EME contest. Read all about those subjects and more in the pages that follow!

My articles folder for Cheese Bits is **still rather thin**. YOU can contribute material that will be of interest to our membership. Please consider doing it. We'll all get something out of it.

Enjoy this months Cheese Bits!

**73, Lenny W2BVH**

# Packrats at the 2010 EME Conference

The Packrats were very well represented at last months International EME Conference, held August 12-14 in Dallas. They share their experiences here in word and pictures. Many thanks to K1DS, N2UO, and WA3BZT for providing their pictures and reports from the conference -ed.

## Reflections of the 2010 EME Conference, Dallas-Fort Worth Texas

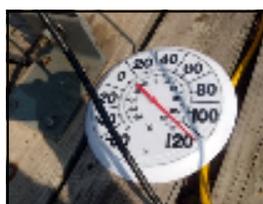
by Rick K1DS

This was the 15<sup>th</sup> International EME conference and it has been a biennial event over a three or four day weekend, rotating locations around the globe. The main sponsor for this year's conference was the North Texas Microwave Society, with chief organizers Al Ward, W5LUA and Barry Malawanchuk VE4MA, ably assisted by a host of others.



Al Ward, W5LUA with test equipment

The DFW Airport Westin has been home to several of the radio meetings over the past few years and was an excellent facility for the conference.



The weather was clear and sunny every day with temperatures over 100°F. Five Packrat members participated: K1DS, WA3BZT, WA3QPX. And Joe K1JT and Marc N2UO also presented papers.

There were 137 registrants, and



many XYLs also joined for the tours, rodeo evening and banquet. There was a hosted hospitality suite each evening with plenty of refreshments and your favorite long-necks.

The formal program started on Friday morning and continued through Saturday at 5:30PM. We had presentations on a broad mix of topics. During the breaks there were 2 rooms with vendors, including plenty of surplus microwave items.



Lots o' microwave items available for sale

Steve and Sandra Costro were there with DEMI items, as well as the Flex Radio team who had their radios playing on 40" flat screen monitors.

The test bench was right there also for



WD5AGO measuring noise figure

measurements of all sorts, including the usual preamplifier noise figure and gain competition.

There were a host of hams from Europe, one from Japan, one from Australia, and several Canadians. It was great to see old friends and meet many newcomers. This was the fifth time that Joe, Marc and I have attended one of these meetings.

Seeing an operating EME station is

always a plus, and this year, Paul WA5WCP brought his rover EME camper vehicle and trailer. He runs several hundred watts on 1296MHz and 2304MHz, using a 12' mesh dish. He visited 7 states in the past 3 years; enabling Al W5LUA to complete the first WAS on 1296MHz. He uses a pair of generators to run the air conditioning in the camper and all the electronics for the radio and dish motors. It's quite an impressive set-up, and even more impressive that he traveled cross-country with the trailer and all to help a ham buddy get a certificate. Hats off to Paul (and Al).



WA5WCP portable rig setup - yikes!

Friday evening there were 50 of us in a bus headed to the Ft. Worth Stock Yards—the place where hundreds of thousands of cattle came to be made into consumer goods at the Swift and Armour packing plants. The activity here is now limited for meatpacking, but has been replaced with restaurants, Billy Bob's entertainment and dance hall, and a working indoor rodeo coliseum. When they announced the groups attending the rodeo that night, the announcer said, "We welcome the Earth-Moon-Earth group. Are they from the earth or the moon?"



Hope Rick knew how to “steer”

Our Saturday evening banquet was rounded out with the door prizes. There was a Flex-1500, an SDR-IQ, a DEMI 1296-28 transverter and a digital AZ-EL position reporting sensors and board and software set that were the top prizes.

I managed to get called about 30<sup>th</sup>, so I got a DEMI sequencer kit—you can never have enough of those. Every attendee eventually got an item, down to the printed circuit board antennas by WA5VJD. Look for those again at our Mid-Atlantic States VHF conference, as Kent donated several to us.



Packrat presenters at the EME Conference



Packrat presenters at the EME Conference

Sunday was a wrap-up, with a fun presentation on the “Echoes of Apollo” EME activity Day held in the spring of this year, commemorating 40 years since the first Apollo mission to the moon. If we’re lucky, we’ll be able to play that presentation at our conference also.

The 2010 Fraser Shepherd Award was presented to Joe Taylor, K1JT by the RSGB representatives. See the other article for the details. The ballots were cast on Saturday among the attendees for the offered locations of the next meeting in 2012. The winner was Cambridge, England, sure to be a super spot and conference. With any luck, it may be hosted in Japan in 2014. Save your bucks and airline mileage points!

We’ll be there!

73, Rick, K1DS

## Some Notes and Comments on the 2010 EME Conference

by Ed WA3BZT

The proceedings was a BIG book (1 1/8" thick) with a cover just like the ARRL handbook. It was very well done!

The temperature in Dallas was really warm (107 to 112 F) while the conference room was a cool 70 F or below. One of the Pack Rats was seen with a coat on zipped up and his hands tucked up in his sleeves!

The hotel was at the end of the airport landing approach and the planes already had their wheels down almost in touching range of the roof. Fortunately there was plenty of sound insulation and we never heard any aircraft sounds at all.

There were over 137 people at the conference and a lot of great info was talked about in the conference, in the halls and at the hospitality room.

We had free drinks every night and enjoyed the times we spent with our fellow moonbouncers.

Joe K1JT gave a great talk on the KP4AO Arecibo EME operation during lunch (when does *he* get to have lunch?). He also did a super talk on "Frequency-Dependent Characteristics of the EME Path".

I think this was one of the greatest conferences I've attended since the Pack Rats Microwave Update a couple of years ago. We all enjoyed the great work done by the people in Texas (North Texas Microwave Society). Hats off to them!

73, WA3BZT

## Quotes from the EME Conference

-- collected by K1DS

"Ham on EME walks into the hardware store looking for ways to improve his station and the clerk says, "May I help you?" to which the ham replies, "No, you don't have any idea what I'm trying to do."

"You don't actually need to know what you're doing to mess around with EME."

"Use finger stock for the scalar ring—it makes you feel good—it makes me feel good"

"What is that big antenna for?" "It's for communicating with other people around the world by bouncing your radio signal off of the moon." "Why don't you just use your cell phone?"

Think of Moore's Law. There are 2 billion semi-conductors in a Flex-1500 radio.

"They sell it in 100 foot rolls. Twenty pieces are cut exactly 5 feet each. One mistake and you need to buy another 100 foot roll. "

"He placed the wrong filter on the 432 amp and in short time destroyed the amp, proving that my filter worked fine."

"My shack looks out to the dish. It's nice to see your dish moving in front of you. Fortunately for me it faces the other way."

If you split Alaska into 2 states, Texas would be the third largest state.

"You can run them at saturation and they will produce plenty of power—of course at harmonics—but it really looks good on the power meter."

On Arecibo: "We use WR2100 feedline for 1500' with 1dB loss on the run"

"The travel time is longer than the tracking time of the telescope. It can communicate with its sister (twin radio-telescope) anywhere in the galaxy—with an inconvenience of 10,000 years for a response."

About DP1POL at the South Pole: "His relay froze and took his transmitter off the air. You need good VSWR protection. But he could hear well as his LNA was nice and cold."

"Location of your EME dish is important—that's why I'm moving."

## Packrat Reports and Soapbox Comments from the 1st 10 GHz Contest Weekend

I was on for a limited time late Saturday afternoon and evening and for an hour Sunday morning. I tried to work Dale, AF1T & Micky, W1MKY on Block Island Saturday afternoon with no luck. The prop map looked good about 8pm. We tried again and worked Dale on CW first, then SSB and Micky rushed up from dinner to work me on SSB. Signals were S9 both ways! The exact same thing happened last year at approximately the same time! I also worked K3TUF and WB2ONA. Sunday morning I worked WA2FGK with S9 signals about 9am and then pulled the switch to go to my granddaughter's 6th birthday party. Can't wait for the 2nd weekend of this cumulative contest in September!

--73, Bob W2SJ

I had some problems and was unable to get my equipment ready in time. Things are definitely on track for September though, and yes I will be with Dale and Mickey at the Vineyard. Glad you all had a good time and good results.

--73, Russ K2TXB

(Note: Russ was recently spotted at K2UYH's doing some minor surgery on his 10G LNA. --ed.)

I had a few hours Saturday and promised folks I'd try to give out some QSO points. I went to a local hill and listened to the beacon and tried to calibrate frequency and bearing. A local resident came by and he remembered seeing me there before, and he once had a novice call, so he knew some ham radio info, and he offered the use of his driveway anytime I wanted to come by. It was a great gesture, and I may take him up on it in the future.

In the meantime, the beacon was weak and when I tried a few QSOs, I was unsuccessful so I headed back home.

I threw some personal items into the rover van, grabbed the computer and headed up to Camelback. Who should pass me on the NE Extension, but Russ, K2TXB with his XYL and a wave and a honk. Great--I'll have company on the mountain. But 90 minutes later I was up on the mountain and no Russ in site. What a coincidence--he was on his way to visit family living in the area, not operating 10G!!

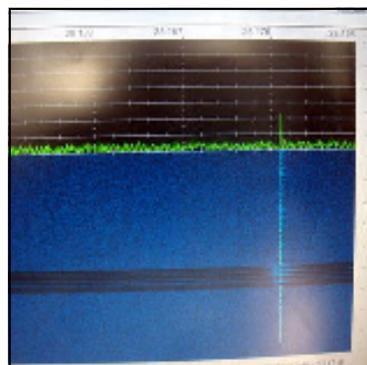
I quickly set up the dish and calibrated on the sun. I was unable to hear the W3CCX beacon as conditions were poor, very warm and muggy, and I think that my 10G receive is not the hottest in town.

I was able to recalibrate with 2 QSOs, one with another ham on Highpoint in NJ, and then with Phil, K3TUF, although the signals were minimal CW copy.

Over the three hours I was on Camelback I managed only 6 QSOs, and nothing more than 300Km. There were plenty of stations wanting to try, but little heard in either direction, including nil with W2SJ, usually an easy shot from Camelback.

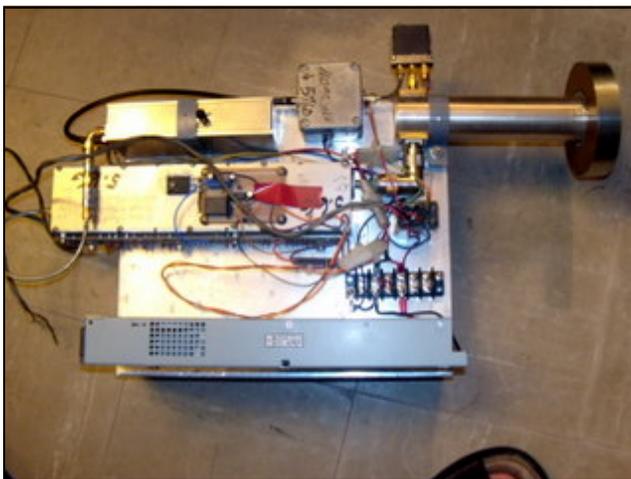
I chalk it up to bad conditions. I had been able to work 11 grids from up there before with this same set-up. At any rate, I had a test of my SDR-IQ and you can see a screen shot of the fellow on Highpoint sending dashes. Note that my 10368.100 comes out at about 144.175 in down conversion. Perhaps we'll be able to do better on the second weekend and add some 24GHz and LASER also.

--73, Rick, K1DS



## ARRL EME Contest Results

Four Packrats converged at K2UYH QTH this weekend for the first leg of the ARRL EME Contest. This is microwave weekend, operating 2GHz and up. Expectations were high as we had plans for 4 bands, but in the final count, only two bands were working. With K1JT and K2UYH as main operators, Chuck AF8Z, Russ K2TXB and me K1DS were support crew, providing equipment and monitoring operations and the secondary receivers. 2.3GHz was the most active and productive with a page and a half of QSOs in the log. The leaves are still on the trees, and there was a very limited window to Asia and the Pacific and no QSOs were made in that direction. The 10GHz transverter was not working at AI's and we didn't try that band.



6 cm hardware

I brought my 6cm 10W amp to AI's on Saturday and Russ K2TXB took it home overnight and lashed together the feed, relays, amp, preamp, transverter and power supply. When he returned with it Sunday it was tested only for output power, and that was "sorta" using a power meter used for 10G. AI put the unit at the feed, but there were many problems getting "noise" as a cable seemed to be intermittent. After a lot of



6 cm hardware being mounted to dish

ups and downs, cable switching, etc, we finally were ready to "test" it on the air--we did get about 10dB of sun noise and possibly 1 dB of moon noise, but the receiver did seem to function. We were unable to hear W5LUA on 5760MHz, and called it quits after that attempted QSO.

73, Rick, K1DS



Joe & Al at the primary operating position

# RSGB Fraser Shepherd Award Presented to Packrat Joe Taylor K1JT

by Dave G4HUP

This award is presented annually by the Radio Society of Great Britain (RSGB) to a nominee selected by the UK Microwave Group. The presentation normally takes place at the RSGB's Annual General Meeting in the UK. Exceptionally this year, the recipient was Joe Taylor, K1JT, and the formal presentation took place at the recent EME Conference in Dallas, TX.

The award is for research into microwave communications, and the UK Microwave Group committee was in unanimous agreement that Joe's work on weak signal digital modes is not only an outstanding contribution in its own right, but is also an enabler for many other areas of research into microwave propagation. The presentation of the award to Joe at the EME Conference was also highly appropriate given Fraser's connections with the mode.

Fraser Shepherd was a Scottish amateur operator, holding the call GM3EGW, and a member of the Dunfermline Radio Club. He was a first class CW operator, and also technically advanced in his thinking and construction. As such he was a prime mover in the first GM 432MHz EME activity in 1965. Professionally he was a businessman and hotelier. His sudden death in 1970, at just 45 years old, brought to an untimely end his creativeness, and also precipitated a period of decline in the Dunfermline Radio Club history. See more information on the history of the DRC at: [www.kars.org.uk/drc\\_history.PDF](http://www.kars.org.uk/drc_history.PDF)



Fraser Shepherd, GM3EGW working moonbounce

....Fraser Shepherd Award cont'd



## 2304 Net Survey by Bob W2SJ

At the last BOD meeting it was noted that Al, N3ITT has included in his 2 meter net announcements for months, that we are looking for a 2304 Net Control operator. As we approach the January contest, this net may be very useful to those planning on adding 2304 or just making sure their present station still works. I would be glad to volunteer, but would like to see what preferences the membership has first:

- How many of you would have an interest in checking-in to a 2304 net?
- How many of you would check-in to 2304 if it started after the 903 net at 10:30pm?
- How many of you would check-in to 2304 at 10:00pm if we ran 2304 one week and 903 the next week, alternating between 903 & 2304 every other week?
- How many of you would check-in to a 2304 net at 9:30pm if we alternated it with the 1296 net every other week?

Please let me know what thoughts you have on the above or if you have another suggestion to offer. After we have compiled the results the BOD will be able to make a decision based on your preferences.

Email: [bobw2sj@verizon.net](mailto:bobw2sj@verizon.net)

# The Wayback Machine

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

de K3IUUV

*(author's comments in italics)*

1. The cover page featured a discussion on modifications to the Heathkit "Sixer", a popular beginner's rig for 6-meters. Member W2AXU (SK) had queried the ARRL regarding fm and frequency jumps observed with this am rig (*that's Amplitude Modulation for the newbies*). The League Technical Director responded that the League was aware of the problem and was working on it. A subsequent letter from the League included full details and a schematic for modifying the rig. The letter included a statement that the Heath Co. was modifying new kits to include this change. The above letters and the schematic were printed in the "bits".
2. The 220 report, written by W3KKN (SK) details the active club net on the frequency of 221.4. He reports the net moved up from the low end of the band, to avoid interference from TV set local oscillators, and nearby radar. He also reports that the club distributed 30 crystals for the net frequency (8200 kc (*obsolete, now MHz*), multiplying to 221.4) to all hams that had signed into prior nets. Quotes of thanks from recipients were cited. A list of **40 stations** on the East Coast active on the band was included. Among the few still around were K3BPP (Walt), W3VIR (Bill), K2SMZ and W3FEY (George). These were the days of the "Barry" Rig and R48 (*ask an old timer*).
3. A letter from the East Coast VHF Society was printed, describing their recent Hamfest. Of note is that **W2NSD**, Wayne Green, had a booth where he was selling subscriptions to his **new magazine (called "73")**. *I still have my copy of the first edition!*
4. Editor Helen Brick gave a nice report on Frankie (W3SAO, SK) and Helen's vacation in their hometown of Quakake, PA. They were "mountain people", for those that can remember. They took along a Heath Sixer, a 2-meter Gonset, and halos for both bands. Had

fun working some locals. Then they borrowed a 4-el beam from a friend in Tamaqua. Using that, they contacted W3ASD (SK in Smyrna, DE), W3OR (the original, now SK), W3KKN (SK), and W2EIF (SK), all Packrats.

5. Picnic Report. About **400** (yes, 400) people attended the 8/14 Packrat picnic. They included some hams from Conn. That drove down the night before and slept in cars in the parking lot. Helen notes that several of the prizes were procured using S&H savings stamps provided by club members through out the year! (Any one needs some, I've got a few books of them in the basement).
6. *Author's disclaimer. In those days the "bits" were usually published 11 times / year, due to the editor's vacation schedule. There was no real Sept issue. The above facts were gleaned from the Oct issue. The rest of the facts will appear next month. Sorry for the deception.*
7. *Author's note. This issue of Cheese Bits was 7 double-sided pages, using heavy, legal-size paper. It was mailed to the members using a 3-cent stamp!*

## Ham Radio URL of the Month

With ITS Corp. MMDS boxes in various stages of conversion by Packrats, there will likely be more interest in the 2304 MHz band. Here are some nice web resources for 2304: If the ITS box's 50 watts output isn't enough power, look at Randy NR6CA's power amplifier conversion info at <http://www.nr6ca.org/spectrian.html>. These power amps are still readily available at decent prices. For a little better front end you can duplicate AI W5LUA's LNA, shown at [http://www.ve1alq.com/pdf\\_files/Mw97lna1.pdf](http://www.ve1alq.com/pdf_files/Mw97lna1.pdf). The transistor he's using is still in current production. Finally if you didn't get an ITS box, you can do a 2304 transverter from scratch using W1GHZ's design. See <http://www.w1ghz.org/MBT/multiband.htm>. Group buys for parts and boards for this transverter show up periodically on the Microwave reflector.

ENJOY!

— Lenny W2BVH

## Events

For inclusion, please direct event notices to the editor.

**Pocono Area Hamfest** - Sept 11, 2010. See <http://www.qsl.net/n3is/hamfest/index.html> for details

**ARRL September VHF QSO Party Contest** - Sept 12-13, 2010. 1800Z Saturday - 0300Z Monday. See <http://www.arrl.org/september-vhf-qso-party> for rules

**Gloucester County ARC 32nd Annual Hamfest** - Sept 19, 2010. Mullica Hill NJ. See <http://www.w2mmd.org> for details

**Mid-Atlantic States VHF Conference** - Sept 25, 2010. See [add, this page](#) and <http://packratvhf.com/VHF%20Conf/vhf%20conf.html> for details

**Antique Radio Show** - Sept 17-18, 2010, at Renningers Antique & Farmers Market, Kutztown PA. See <http://www.renningers.com/kutzradio.htm> for details

**ARRL 10 GHz and Up Contest**— Sept 19-20, 2010. See <http://www.arrl.org/10-ghz-up> for details

**Mt Airy VHF Radio Club "Hamarama" Hamfest** - Oct 3, 2010. Newtown PA. See <http://www.packratvhf.com/Hamarama/hamarama.html> for details

**Red Rose Repeater Assoc Hamfest** - Oct 2, 2010. Talmadge PA. See <http://w3rrr.org> for details

**ARRL International EME Competition Contest**— Oct 2-3, and Oct 30-31, 2010. See <http://www.arrl.org/eme-contest> for details

**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.

## Mid-Atlantic States VHF Conference

**CALL FOR SPEAKERS, PAPERS, ABSTRACTS**

send to: [pdrexler<at>hotmail.com](mailto:pdrexler@hotmail.com)

**NEW LOCATION:** Quality Inn Conference Center--969 Bethlehem Pike--Montgomeryville, PA

One Day Conference for experts and beginners alike. Full info at: [packratvhf.com](http://packratvhf.com)

One price **\$70 early-bird** includes CD, light breakfast, lunch, snack & buffet dinner

**Raffles and Door Prizes--Indoor Selling , Outdoor Tailgating, VHF gear testing**

--Friday Night Hospitality Room-- **FREE BEGINNERS SESSION** (must register)

**Special room rate** if you want to stay overnight \$79+tax (mention Mt Airy VHF) On-line Registration now open [http://dataandwireless.com/packrat/vhf\\_registration.php](http://dataandwireless.com/packrat/vhf_registration.php)



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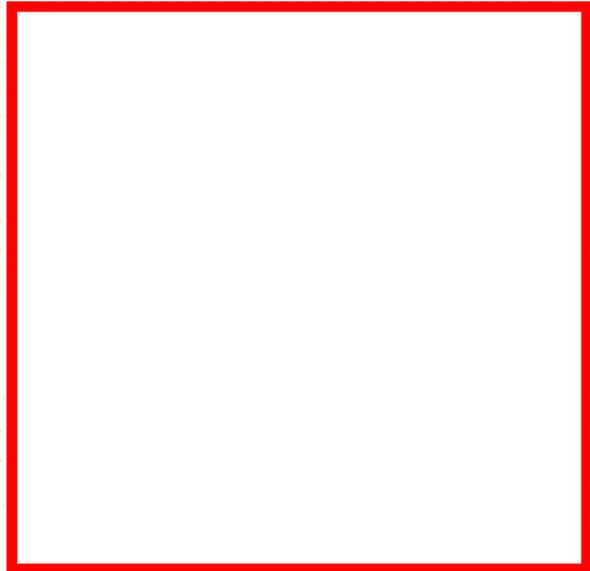
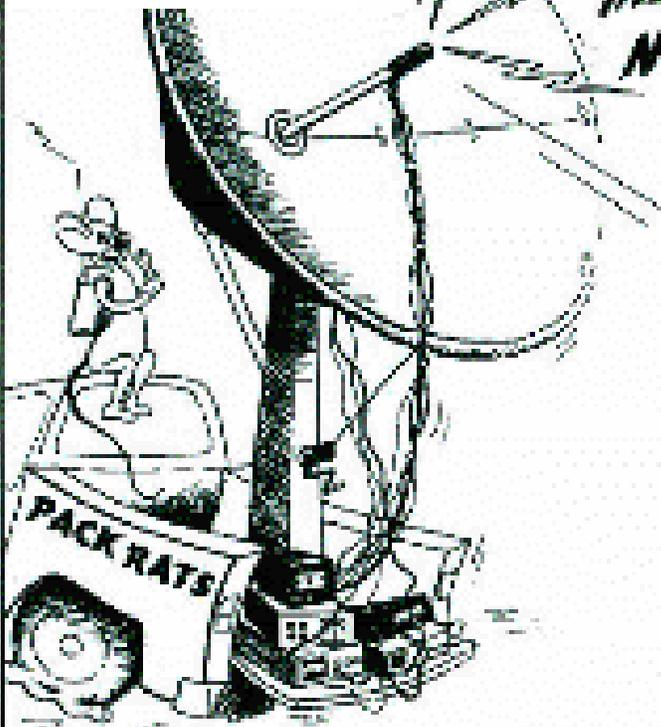
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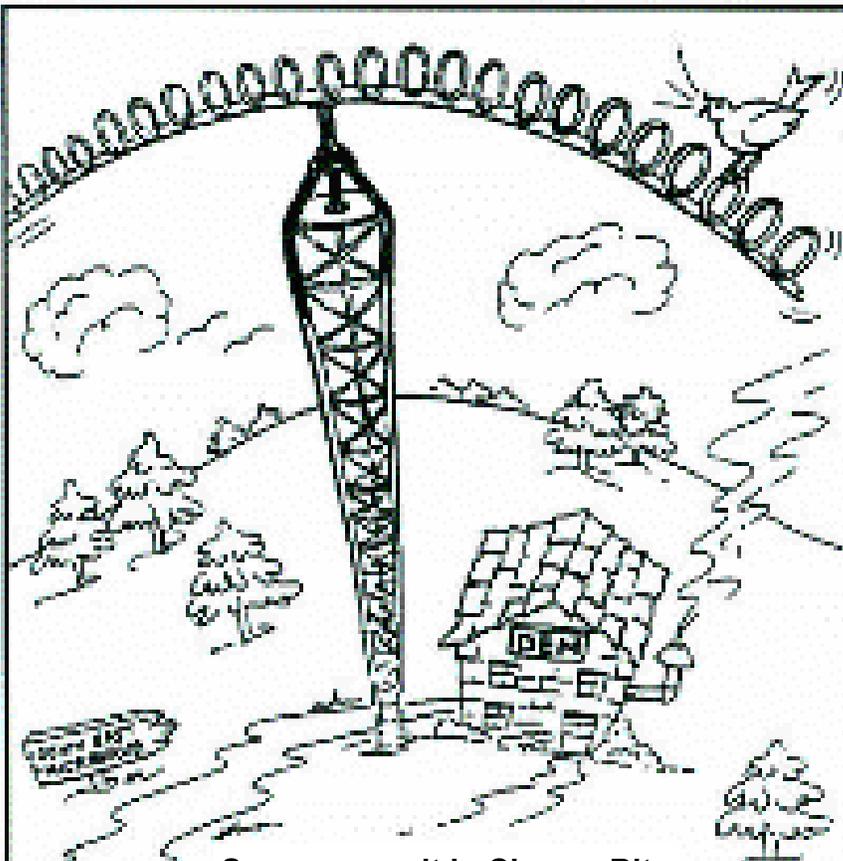
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