

Volume LIII

September 2012

9 Number



Summer is over now and we can focus on getting ready for the big January Contest by SEZ: participating in the September VHF Contest this coming weekend. I hope all had a

great holiday weekend sharing the time with family and friends. August was a fun month with the UHF contest, Perseids Meteor Shower, 10GHz and Up contest, 50MHz Sprint, and a great time at the Packrat picnic. I had my personal best score in both the UHF and 10GHz contests, how did you do?

This is such a good time to check out your equipment and get antenna work completed or repaired (WA3SRU). With Summer over and cooler weather on it's way, you just can't beat this time of year for outside work. Add that new band, it's so nice to put a small fiberglass enclosure with a standalone transverter and short cable to a single looper.

Now the next event is this weekend's VHF Contest and it is a club event. Let's submit a record number of logs for September. The project to split 5 and 10GHz on the K3TUF tower is complete and for the first time in well over a year I will have 11 contiguous bands working all at once, a major accomplishment as most of you know. This contest is a great warm up for the January event that we all get so involved in. If you can't commit to the whole weekend, please get on when you can. I'm asking that everyone who has operational equipment get on the air and work as many as you can for as long as

you can get on the air. The level of chatter on the reflectors is starting to rise in anticipation of the September VHF Contest. Sean, KX9X will be on from the league station looking for some new 6 meter grids. There have been some interesting openings in the past few days, one rewarding us with Trans Equatorial propagation, so be on the lookout on 6 meters.

When this contest is over my plan is to get a new 15 meter beam installed on my lower tower; we're not sure what is going on with this sun spot cycle, but before the cycle recedes, take advantage of what we have from Old Sol. A great way to sharpen your contest skills, particularly cw, is to get on one of the many low band contests. Just dabble with search and pounce if that is all you are comfortable with. but tune that HF radio with the dipole in the backyard. Oh, and did I mention that if you need to do some antenna work (HF or otherwise) the weather is going to be very conducive to repairing or adding another antenna or tower. October, November and December will have some really good opportunities for Contests: CQ WW SSB, CQ WW CW, ARRL Sweepstakes, 160 and 10 meters. Mark them on your calendar and dabble with some good rates of contacts. For some immediate DX, look for the Swains Island dxpedition which just started operations on the air till September 18th; see NH8S.org.

This fall we start our regular meeting agenda. We have a great lineup on tap for meetings. First this month is our new ARRL EPA Section Manger, Bob

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

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PACKRAT 222 MHz REPEATER - W3CCX/R

222.98/224.58 MHz (PL 136.5) Hilltown, 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

TIME	FREQUEN	ICY	NET CONTROL
7:30 PM	50.145	MHz	K3EOD FM29II
			WA3QPX FM29di
8:00 PM	144.150	MHz	N3ITT FN20kl
8:30 PM	222.125	MHz	KB1JEY FN20je
8:30 PM	224.58R	MHz	W3GXB FN20jm
9:00 PM	432.110	MHz	WB2RVX FM29mt
9:30 PM	1296.100	MHz	K3TUF FN10we
10:00 PM	903.100	MHz	WA3SRU FN20le
Visit the M	t Airy VHF	Radio	Club at: www.packratvhf.com or
www.w3cc	x.com		

Famiglio. Come and hear about Bob's vision for the Section and get to know one of our League Field representatives. Next month come and hear about everything you ever wanted to know about Roving. Then we will hear about a 6m dxpedition.



Even though Hamarama

comes first, it's **now** time to register for the Conference (no registration needed for the fest). This year will be another outstanding event, with some wonderful prizes, great speakers and lots of fun and fellowship with like minded radio enthusiasts. Go to the website, review the conference brochure and register using the link on the site. We need your support at this event.

The last day of this month is our annual hamfest: Hamarama. Notices have been sent out and the weather is scheduled to be cool and dry, so all things are set for a great day, come and support the club; you may even bring along some of your spare equipment collecting dust crying out to be sold. Many are anticipating the event. I was at a hamfest in Pittsburgh a few weeks ago and many flyers were taken from my table with a few folks saying they would see me at Hamarama. Mark your calendar and have a great month.

Lets work on lots of bands, Phil K3TUF

Some Results from the ARRL UHF Contest

K3TUF

I entered this contest only with the expectation to have fun. Leading up to the weekend I had lost my 10g transverter, so I knew I was behind, but I had 5g working for the first time in over a year. Couldn't wait to try the new 1 meter dish on 5g as well.

The lineup was 222 through 24192 minus 10368 and everything worked throughout the contest, for which I am always happy.

Although some would say the activity was low, I was usually able to find stations to talk to; the software reports max rates of 66 per hour for a 10 minute period and 36 per hour for a 60 minute period. Comparing to HF rates that's really slow, but by UHF standards, I'll take it.

Saturday was a pleasant time all the way till bedtime. Sunday was also nice inside, but the weather was hot, muggy and stormy including a line of storms that had high winds. Consequently the lower bands were noisy most of the time, but never really interfered with contacts, or so I assume.

The contest gifted me with my personal best in ARRL UHF scores: 167,778 claimed. My previous best score was in 2006 when we had outstanding activity and many rovers going out. This time we had several rovers for whom I am grateful: N3IQ, NN3Q, WA2IID, W1AUV, W3HMS, WA3PTV, K1DS & W1RT, thanks to you all.

Thanks also go to my packrat and NEWS friends who got on to compete and just to "give out points", whichever, activity is what we want. Here is the band summary of my activity:

Band	Qso's	Grids
222	64	31
432	73	28
902	31	15
1296	42	20
2304	19	9
3456	15	6
5760	15	8
Total	167	,778
A :		

An interesting observation is that I had more grids on 222 than on 432 and more on 5760 than 3456. Lets all get on next year for even more activity. 73,

Phil K3TUF

K1DS

I only had 3 hrs from the start of the contest before I had to QRT as I had a series of other engagements. I thought I would explore a new possible rover site, but it turned out to be less useful than I would have predicted. It was about a mile from the local Spring Mountain Ski Area-actually a series of little hills. Plenty of vegetation on top, and the spot I had in a park nearby at FN20gg was not as high as the mountain, and there were plenty of trees.

At any rate, it was hot and sticky--I kept the van running and AC on the whole time. The engine sure was running warm and the AC wasn't terribly effective until I started back on the road home.

It was nice to QSO with many of the usual suspects, and to find a few new calls in the log.

Here is the box score: 2012 ARRL UHF Contest K1DS FN20gg Claimed score = 8910 SINGLE-OP ALL LOW EPA Section

Band Q	SOs	РТеа	I QSO	pts. Grids	Points	
222	11	3	33	7	231	
432	15	3	45	10	450	
903	7	6	42	4	168	
1296	7	6	42	5	210	
2304	4	12	48	3	144	
3456	3	12	36	2	72	
5760	1	12	12	1	12	
10368	1	12	12	1	12	
TOTALS	49)	270	33	8910	

Here is a picture of the (fixed station) rover (I had taken down the dish by the time I snapped this)



73, Rick, K1DS (I was a fixed station in this event, not a rover)

W2BVH

I have only 2 bands that qualify for the ARRL UHF contest: 222 and 432. And on 432 my transverter makes 15 watts. A solid state power amp is currently in the works for 432 Maybe for January?).

I viewed the contest as a good opportunity to check out my revamped 222 MHz setup. I've had some real difficulty with my home brew 222 transverter: When it warmed up a bit and I keyed it in ssb mode, it would pull full dc power even when I wasn't speaking into the mic. Since I got decent signal reports on 222 in the June contest, I suspected a powerful out-of-band spur. I rebuilt the transverter by removing the 2 output stages and shielding the remaining MMIC output stage. At this point the transverter makes about 13 dBm (20 milliwatts). Fortunately I picked up a "Securicor" commercial service amplifier from a ham out in W7-land and converted it for ham radio use. It has a ton of gain (13) dBm in yields around 51-52 dBm (140 watts) out. The net result is no more weird behavior. I asked just about everyone I QSO'd in the UHF contest for a sig report and got nothing but good news. So I guess I'm set (FINALLY) on 222!

In 2 1/2 hours of operation on 2 bands I logged the following:

33 Q's in 19 Grids 16 Q's and 11 Grids on 222 17 Q's and 8 Grids on 432 Claimed score: 1881

Best DX was KN4SM in FM16 which for my modest set-up in north Jersey is pretty gratifying. I hope to do better next August.

73, Lenny W2BVH

PIX FROM THE ANNUAL PACKRAT PICNIC



Al & Joe on the grill



Checking contest scores



Cool in the shade



KA3MGB attended







"Almost" DOES count in horseshoes competition





N3RG with his EME setup



More of the crowd



W3KM & granddaughter



The pool was a great spot to cool off

Many thanks to K1DS for pix & captions

Six Meter DX Report

August 12 2012

The 6 meter summer E season has been winding down, although there have been some late season surprises. There continues to be occasional propagation to Europe, as shown on the ON4KST screenshot for August 3, 2012 I've attached below.

There have also been some openings to South America and the Caribbean islands. I'm not sure whether this is attributable to solar activity, more extensive monitoring of the band, internet chat pages or propagation monitors, but I'm sure that the higher power and better antennas that many stations now have helps whenever there is a hint of a path. It is also interesting to see on the ON4KST map the South America to Europe opening on the same day; the path parallels the geomagnetic equator. I'm not sure if this is early F2 or early TEP, but in August contacts have occurred via this path on **at least 4 days**.

On the European side, there have been a number of interesting openings to Africa, the Middle East, and other areas. D64K has had some unexpected openings into Europe from the **Comoros Islands** (just off the east coast of Africa near Madagascar). This expedition was thought to be too late in the season to have much of a shot to anywhere on six meters, but as I write this, the group is enjoying at least its **second spectacular opening** to Europe.

CP	DP	EP	FP	GP	HP	IP	JP	КР	
co	DO	- COL	FO	GO	HI	10		КО	
CN	DN	EK.			-	1		HAL	
сн	DM	ER	FM	GM	HA	TH	JU	KM	
CL.	DL	EL	K A	GL	All		JL	KL	
ск	DK	EK	FK	A	11840	1	JK _	кк	
CJ	DJ	EJ	FJ	a l	MAI	IJ	IJ	КJ	
CI	DI	EI	FI	GI	MB	п	n	кі	
СН	DH	ЕН	FH	H	нн	IH	JH	кн	
CG	DG	EG	FG		HG	IG	JG	KG	
CF	DF	EF	FF	GF	HF	IF	JF	KF	ON4KS

ON4KST map for August 3, 2012

Six bears continued watching since it seems to be open quite a bit more than what was anticipated.

I'm not sure how good the Perseids meteor shower is; I listened this morning for a few hours on 6 and 2 meters and the intensity of the shower seemed just OK. Maybe it will peak up tonight and early tomorrow.

Two meters gave us a surprise on July 24th with a real good sporadic E opening. I had seen during the day that there was a two meter E opening from this area to Florida, but

...Six Meter cont'd

didn't think too much more about it until I got home shortly after 6:00pm. I came down to the shack and turned on the Six Meter Chat page. I saw reports of extremely short propagation on 6, so I turned on the 2 meter radio. When I did, I heard a station in EM99 (West Virginia) via E skip. This was way too close, which told me the MUF must be well above 144MHz. I called CQ and promptly began working stations in Arkansas, Missouri, Oklahoma, and Texas. One, K5SW in Oklahoma, was mobile.

The opening lasted until about 8:00pm. Phil, K3TUF and Ron, W3AJJ also worked several stations. Below is a summary of what I worked.

It was fun to work a couple new grids; unfortunately as the opening continued the skip did not seem to stretch out for me. I think K1WHS in FN43 Maine had the longest distance contacts.

22.21z KF4WE EM56NL 22.29z KB5MR EM25AV 22.30z W5KI EM36CL 22.32z K0AZ EM37DC 22.33z K5SW/M EM25 22.38z K5YY EM26WE 22.42z K0DOK EM48LH 22.43z WA0CNS EM48RN 22.43z W7QJQ EM25NU 22.45z K0CIY EM25LP 22.47z W0FY EM48RP 22.51z KD5OLB EM25OF 22.55z K5KDX EM25SM 22.59z W0BLD EM37JC 23.03z K5KDX EM25SM 23.09z N5UWY EM15IF 23.16z AF5CC EM04TO * 23.24z N5IZ EM04TO 23.28z N0YK DM98ML * ** 23.34z KD5ZVE EM26FG 23.52z WB5AFY EM04ID ***

*New Grid. Grid total 411 ** Distance between FN10UC & DM98ML is 2123.69 km (1319.66 miles) ***Distance between FN10UC & EM04ID is 2136.99 km (1327.925 miles)

73, Chris W3CMP

Quotable Quotes from EME Conference 2012

Submitted by K1DS

- The problem of tuning up the parametric amplifier was replaced by the problem of blowing up the expensive transistors.¹
- The transmitter power was improved with water-cooled tubes. The results could be spectacular in many ways.¹
- The biggest hurdle is preamp stability—even in the ones I built.²
- My last LNA used an NEC device, but I didn't tell my boss.²
- The next step would be to evacuate the LNA housing to prevent precipitation in the electronics from cooling the preamp.²
- We try what works for us---theory is one thing; what works is sometimes quite different.²
- The more you put in, the more you get out. I'm now using 12.6 KV on the TWT, but I'll leave good-enough alone. Good enough really is good enough.²
- The bank called to ask why several exact same amounts were coming into my account.³
- After I replaced 80% of the components for ROSH compliance, for some reason the radio never worked again.³
- It's not only necessary to develop boards and solder components...you have to deal with governments too.³
- The decoder is written in my favorite old language, FORTRAN.⁴
- You can use the maximum ratings but not all of them at once.⁵
- You could use ESD protection when assembling GAN amplifiers. If you actually paid for the device, you surely will.⁵
- A loop is really hard to feed in two directions—if you have an idea how, let me know.⁶
- After the modifications I called in the XYL. Now she can hear the echoes.⁷
- I understand as you get older, you lose strength...and when I look around here....⁸
- Will this project be successful? I'll be able to tell you at the next EME conference.8
- It (the readout) forces you to investigate the problem since it cannot be reset.⁹
- I operate at 144.003 at times. (response) Don't you ever get lonely? ¹⁰
- You can add as many power modules as you like, or as many as the XYL allows.¹¹
- I thought it was 40 trips to the Dwingeloo dish, but the XYL said 39, and she was right.¹²
- Maybe soon we'll see a new JTpic mode?¹² Response: Don't hold your breath.⁴
- The preamp was off-the-shelf. Let's not worry about the noise factor.¹³
- I always have good intentions. Speak to my XYL about that.¹⁴
- You've all seen Hubert's work, it's like jewelry.¹⁵
- Other dimensions you got wrong probably compensated.¹⁵
- You can take a kitchen knife to cut the septum.¹⁵
- Our dBs have gotten better.¹⁵
- All preamps have the same noise figure. We proved that this morning.¹⁵

 G3LTF; 2. W5LUA; 3.HB9DRI; 4. K1JT; 5. G3WDG; 6. SM6FHZ; 7. OK1DFC; 8. OE5JFL; 9. WW2R; 10. Audience; 11. G4BAO; 12. PA3FXB; 13. David Morgan; 14. K2UYH; 15. W1GHZ (last quote was in response to GM4ZNX and GM3SEK's presentation regarding uncertainties in noise figure testing)

Strays...



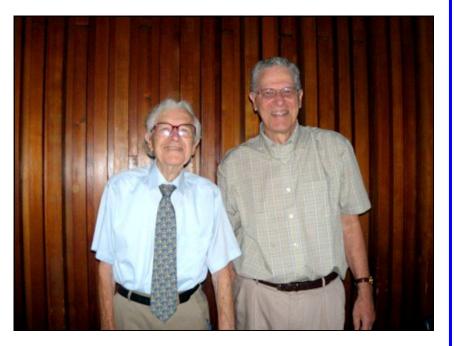
This was taken at the dinner reception on Saturday night at the Churchill College Dining Hall of Cambridge University, Cambridge, England, at the 2012 EME Conference. The only fellow I forgot is the one on the far left in blue shirt. The others include: Paul Wade W1GHZ and wife Beth, Russ K2TXB and wife Barbara, Paul WA3QPX and wife Judy, Rick, K1DS and wife Jani and Joe K1JT and wife Marietta.

Thanks to WA3QPX and K1DS for the pic and caption.

Along with Joe, K1JT is Professor Antony Hewish recipient of the 1974 Nobel Prize in Physics. Look him up. A good place is http:// www.nobelprize.org/nobel_prizes/ physics/laureates/1974/hewishautobio.html

Having Joe and him together at the dais was great. Both are astrophysicists and won prizes in the same field of research. Hewish was the dinner speaker at the EME Conference.

Thanks to K1DS for the pic and caption.

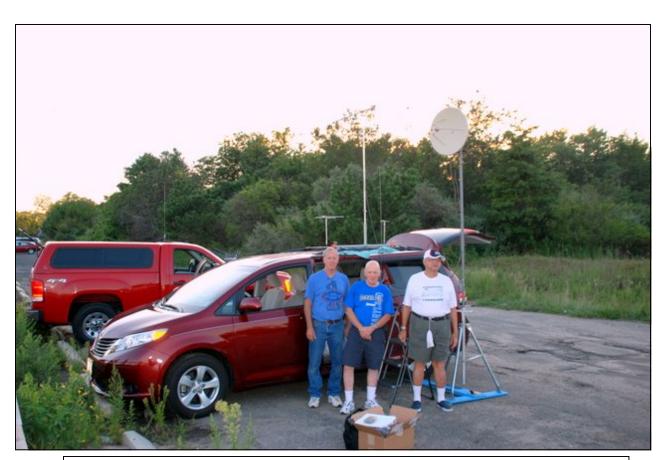


New 10 GHz Beacon

This morning (July 2, 2012) the Packrat crew of W3HMS, W3FEY and K3TUF installed a new 10GHz beacon at it's home on Blue Mountain in Harrisburg, PA. The beacon signs W3HMS and is located at FN10ni on a frequency of 10368.072. Wow, I can hear it, in spite of the Cornwall Mountain blockage directly in the path of the beacon that is over 40 miles from my location. This a new experience for me, to hear a 10g beacon. I should also remind you that W3HMS also has three other beacons in FM19 near Red Lion, PA on 1296.251 and 5760.201 as well as a 2400 satellite beacon. Thanks to all who assisted in making this beacon a reality.

73, Phil K3TUF

Strays...



Here is a picture of 3 friends WB2SIH, WA2LTM & K1PXE on the shore of Long Island Sound in Connecticut for the 10 GHz contest. Doug reports that they set up very late (5:00 pm) and were able to scare up but a single QSO so late in the contest. Better luck next time.

Pic by WA2LTM

Mid-Atlantic / N.E. VHF Conference

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Revised Program speakers:

Terry Price	W8ZN	The K8GP contest superstation
Paul Wade	W1GHZ	Flexible VCO Locking board
Phil Theis	K3TUF	SDR updates & PIC microcontrollers
Rick Rosen	K1DS	Portable EME part I
John Jaminet	W3HMS	Portable EME part II
Joe Taylor	K1JT	PPMR for JT65
Dave Olean	K1WHS	6m SSPA
Kevin Kaufholo	d W9GKA	Distance scoring
Mark Casey	K1MAP	Microwave band plans
Gary Hitchner	WA2OMY	2304 SSPA
Dave Meier	N4MW	Dual band synthesized beacon
Roger Rehr	W3SZ	Bandscopes
Stan Helinski	KA1ZE	The 205 Phenomenon and remote station control

Information and Registration site now on-line at www.packratvhf.com

The Wayback Machine

Gleaned from the pages of Cheese Bits, September, 1962 (Vol. V Nr. 6) (Authors comments in *italics*)

- This issue, 7 double-sided legal size pages, mailed for a 3-cent stamp!
- The highlight of this issue was a • lengthy treatise on the seventh annual picnic, held at the Fort Washington State Park. Look at the statistics: 644 people attended! This number included 184 Harmonics (children in case you do not know the jargon). 146 Yls and XYLs, while the rest (314) were Hams. A great turnout. (What do we need to do to encourage more participation in our current picnics)? Attendees included Ed Clegg (W2LOY), and representatives of twelve ham clubs. These included the East Coast VHF Society, which brought 25 people in a hired bus. Door Prizes and giveaways were contributed by 40 organizations. As might be expected, some of these now are in the category of "things that aren't there anymore". Examples: Clegg Laboratories, A.G. Radio parts, ALMO Radio, Philadelphia Saving Fund Society, RESCO, RCA Ham Tips, W3FTP and W3ZRR. Festivities included a watermeloneating contest. One of the highlights was the six-meter buggy. This was brought by Elliott, K3JJZ, with a 6-

meter halo mounted to the family baby carriage! Highlight of the picnic was the scale model of the new (*then*) ARRL building that K3HWZ (Grandpop Bill) had made. To date, 177 bricks (*engraved with the donor's call*) had been sold. The scale model was scheduled to be taken to ARRL headquarters in January.

- Telstar. Ed Kushner, W3HKZ, detailed the technical aspects of the recently launched Telstar Satellite, an early communication satellite operating with 6390 Mc (MHz) uplink, and 4170 Mc (MHz) downlink. Telemetry transmitted on 136 Mc (MHz). The outer surface of the 170-lb satellite is covered with 3600 solar cells. (*Telstar helped pave the way for the myriad of communication satellites that we use today*).
- New Products. Lynn Rowland, W3NSI (SK), reported on the newly announced SX117 receiver, which featured a 12-tube, triple conversion design. All Ham Bands are covered, in 500 Kc segments. (Your current editor still has one of these which he obtained new in 1963—W2BVH). Price \$379.50.
- Swap Shoppe included a "Wanted, Old QSTs before 1930" listing by K3IUV. (*I ended up getting them, giving me a nearly complete collection of all issues of QST*). Also included was a "For

Sale" item: National VFO for 6 & 2, by K3JJZ!

- An interesting article discussed the voice reception of two Soviet astronauts, heard at Haverford College on August 13. As reported in the Evening Bulletin, the broadcast was heard over "a short wave radio constructed at the college, by Thomas Benham (W3QD) and some of his students". A Russian interpreter was on hand to translate the received signals. Note. Tom Benham was a blind ham.
- Official Bulletin NR 860 from ARRL HDQ, 8/9/62. "VHF history has been made again. On August 9, KH6UK and W1BU established two-way amateur communication on 1296 via moon-bounce between Hawaii and Massachusetts. Details will appear in Sept. QST."
- Announcement. It's official. By law, all future TV set manufactured must receive 83 rather than 13 channels. (Ushering in the UHF spectrum).
- Speaker was announced for the September General Meeting. K3JJZ, EI, will speak on "Thalidomide". (I don't recall the talk, but I bet it generated a lot of Q and A). El also "volunteered" to be the chairman of the

Program committee.

 Two-meters. Dave, W3LHF again reports activity and contacts from Maine to Virginia, and suggests the members "point your beam North" and look for the VEs known to be active.



thirty, de K3IUV

Strays... Mark Hinkel reports:

Congradulations to Marc, N2UO, for winning the top spot with the photo of his 20ft dish. Check out pg 142 of the Sept QST...

Strays...

How SOME hams keep the car cool



<u>Events</u>

For inclusion, please direct event notices to the editor.

September VHF QSO Party - Contest September 8-10, 2012. See http://www.arrl.org/

september-vhf for details

10 GHz and Up (round 2) - Contest September 15-16, 2012. See http:// www.arrl.org/10-ghz-up for details

Gloucester County ARC 33rd Annual Hamfest - Sept 16, 2012, Mullica Hill NJ. See http://www.w2mmd.org for details

Antique Radio Show - Sept 21-22, 2012, at Renningers Antique & Farmers Market, Kutztown PA. See http://www.renningers.com/ kutzradio.htm for details

Hamarama - Hamfest Sunday September 30, 2012. 41st Annual Packrat Flea Market. Middletown Grange Fair Grounds, Penns Park Road, Wrightstown PA. General Admission only \$5.00, XYL, Harmonics < 13 free. Additonal details at http://www.packratvhf.com/Hamarama/ hamarama.html

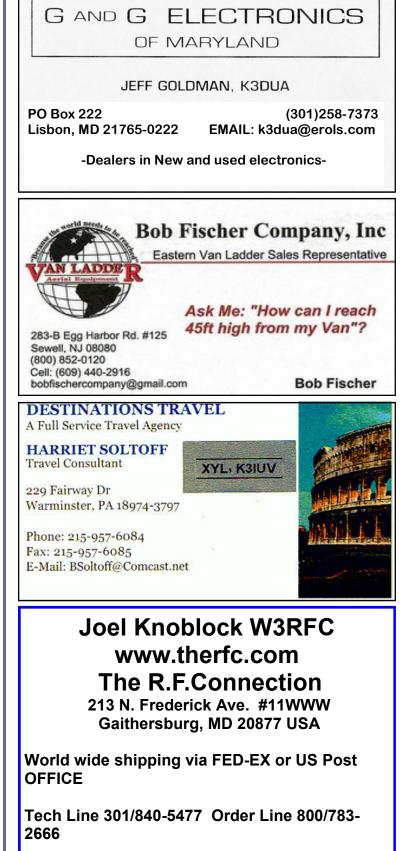
W3RRR 2011 Hamfest - October 6, 2012. Red Rose Repeater Assoc. Talmadge PA. See http:// w3rrr.org for details.

EME Contest, 2.4 GHz and up -Contest Oct 6-7, 2012. See http://www.arrl.org/eme-contest for details

Joint Mid-Atlantic & Eastern VHF Conference - October 12-14, 2012. Marriott Courtyard in Bensalem PA. For complete details see the AD elsewhere in this issue.

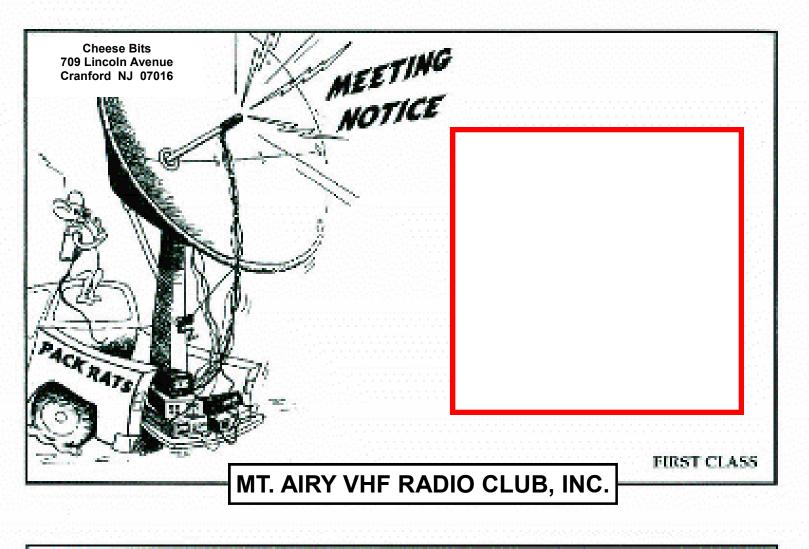
Microwave Update (MUD) 2012 Conference -October 18- 21, 2012. Hosted by: The 50MHz and Up Group of Northern California. Details to follow.

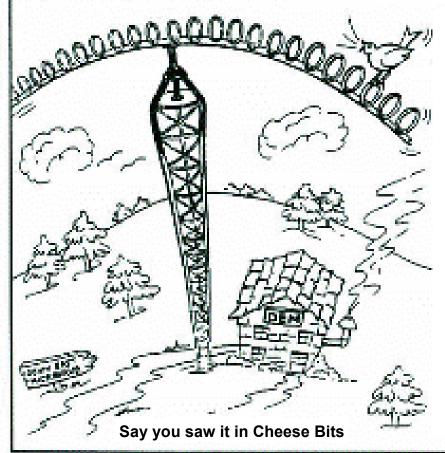
EME Contest, 50-1296 MHz (round 1) -Contest November 3-4, 2012. See http:// www.arrl.org/eme-contest for details



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