MT. AIRY V.H.F. RADIO CLUB, INC.

CHEESE BITS

W3CCX
CLUB MEMORIAL CALL

ARRL Affiliated Club

Volume XLIII **December 2001** **Number 12**

Prez Sez

The November meeting was the Laser Communicator build session, hosted by Rick, K1DS. Rick did a terrific job of as kitting up the parts and instructions for assembly. Even though mine is not completed yet, it will be by January.

Speaking of January, the contest is right around the corner. I urge all members to come out to the December meeting. This is our preparation meeting for the contest. As club members, we should unite to make this the best contest effort ever. Joe, AA3GN, will have the contest packets for distribution to us. Again, as Pack Rats, we have had a long history as being the best VHF/UHF club and there is no reason we can't continue the tradition. If you have not made your 2 meetings this year, please try to make the December and January meetings so you will be able to compete.

Band conditions lately have been excellent, if you haven't been on, what are you waiting for? In the last month there has been good meteor conditions, aurora and F2 conditions. If you're on in your shack don't hesitate to make an announcement on the club repeater, this is a terrific tool to use to gang up on the DX hi hi.

Congrats to Joe Taylor for his article in Dec. QST, the Complete WSJT Meteor Scatter Story. Check it out. My personal thanks to all the Pack Rats who have pitched in with their time, energy and talent to keep the club vibrantly active. From the start of the year at the January contest, through the summer events at the mountain, picnic, white elephant sale, weekly nets, VHF Conference, Hamarama, and elections at Otto's among other things, club officers and board members, newcomers, 'tweeners and old-timers alike have made selfless contributions.

Last but not least we will have a short budget report at the December meeting. This may determine the way the club functions financially for the next year.

73s and all the best for a Happy and Healthy Holiday Season and New Year, Brian N3EXA

Board of Directors Meeting —— Thursday, December 13th, 8PM
QTH of Joe Landis, AA3GN, 16 Fairhill School Rd, Hatfield (really Hilltown - but he has no PO), PA 19440
This is an open business meeting, and all Pack Rats are invited

Monthly Club Meeting —— Thursday, December 20th, 8PM
Southampton Free Library, 947 E. Street Road
January VHF Sweepstakes Preparation and Packets
Led by Contest Chairman, Joe Landis, AA3GN
Guests and Visitors welcome

Pack Rat Web Site: http://www.ij.net/packrats

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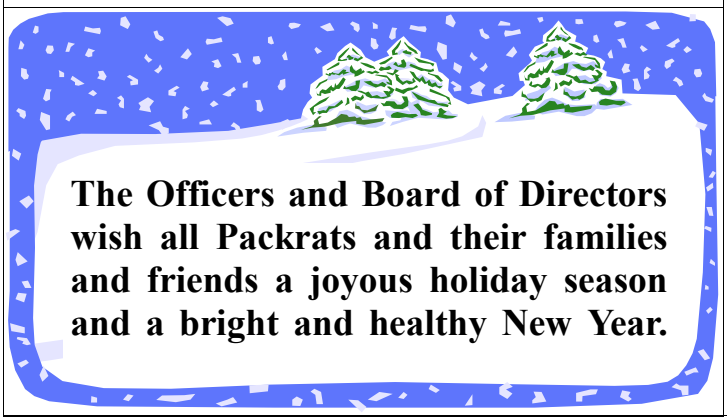
PACKRAT BEACONS - W3CCX/B
FM29jw Philadelphia, PA
50.080 144.284 222.065 432.295 903.071 1296.251 MHz
2304.037 3456.220 5763.190 10,368.140 MHz (as of 3/1/01)

MONDAY NIGHT NETS

TIME	FREQUENCY	NET CONTROL
7:30 PM	50.150 MHz	WA3EHD/K3EOD
8:00 PM	144.150 MHz	N3ITT
8:30 PM	222.125 MHz	W2SJ/N3EXA
8:30 PM	224.58R MHz	W3GXB
9:00 PM	432.110 MHz	W3RJW
9:30 PM	1296.100 MHz	WA3NUF
10:00 PM	903.100 MHz	N3AOG

THURSDAY NIGHT NETS (1st & 4th of the month)
9:30 PM 2304.100 MHz W3KJ, & go to 3.4G & up after



Editor's Column

As with many great VHF opening opportunities, this time I will have to say, "Missed it again." This time it was a conference in Washington, DC, followed by a trip to help my mom out in Florida. But judging from the correspondence I get from some readers, many of you share the same fate. A special added hurdle is my rover status, living in a community that has antenna restrictions, and having to get the antennas mounted for each event. But, hey, that was the price I paid for moving in there, and I knew it up front. Perhaps like me, many of you are content to say, "Yeah, with my station, I could have work that….." But until you really go after the 6m WAS or WAC, or the 2m VUCC, it's hard to appreciate the special effort and patience that it takes to fill in the last pieces of the puzzle. I have only 1 operating achievement award, and that's a WAS via Satellite, #83, from the early 80's. There were only low-flying birds, and one used a map and overlay to track the satellites, with the computer giving you a print-out of AOS, 1-2 minute az/el updates and LOS on your dot-matrix printer. Although there were rotor interfaces, antenna aiming never seemed too critical. The TI-1000 computer with a 32K RAM add-on took only 20 minutes to get the first calculation on screen after loading in the program via a cassette tape. Living in Rhode Island then gave me a bit of an advantage, as there were only two other stations in the sate who were active periodically, and RI was sought after, especially on mode J, where I was the only RI op at the time. Knowing that it would be a lot easier to work the 48 CONUS states, I chased Alaska for several months, searching the monthly newsletters and weekly nets for news of a satellite active KL7. Waiting for the satellite to be in the proper position was another delay, but the contact was easy and solid. On the other hand, the KH6 QSO proved to be the most challenging, as there were very rare opportunities to find an active ham on OSCAR 8, and the mutual window of opportunity was at most 40 seconds when the satellite made a descending pass over extreme coastal CA. My hero was a ham and submarine captain, who was on leave on Oahu, and who was able to pack his gear into his car, head to the eastern shore of the island, set up a portable antenna, and as we both pointed at the horizon, with split-second timing, completed a solid QSO. My 50th state turned out to be WY, probably no surprise, but it took a lot of whining to coax a satellite capable ham out there to sked with me.

All this is a prelude to some new list compilation, and perhaps some challenges. In my brief 5 years as a Packrat, I have not seen a list of Packrats with WAS or VUCC. Although the "Standings" box appears in QST, few Packrats are listed. It would be nice to see who's got what accomplished and on what bands. I will not be reviewing QSL cards—this will be the Packrat honor system, and ***all*** members are invited to submit their VHF/UHF/SHF WAS, WAC, DXCC and VUCC totals to me for compilation and publication. Please don't be shy. Send an email or drop me a card. All addresses are clearly marked in this issue.

And while we're talking about some competition, how about the following: A prize for the best ideas on use for the MMICs that were passed out by the dozens at the Mid-Atlantic States VHF Conference, or the best practical circuit use for them. John has suggested that they can be used in winter as a traction aid for your car's tires on ice! And furthermore, how about a prize for the best distance 2-way QSO using the laser communicators that many of us now have. Send in your ideas and laser QSO reports. Happy and Healthy Holidays! Rick, K1DS, Editor

Is your station ready for the January 2002 VHF Sweepstakes? It's time now to finalize those antenna and feedline improvements, tweak the preamps and power amps, and load the latest and greatest versions of the W3KM contesting software into your computer. Have you made plans with other ops to help your multi-op station remain on the air for the duration? Have you secured the weekend with the family schedule? Have you added a band this year? If not, someone may have a loaner to get you on for more multipliers. Ask your fellow rats for assistance. Post your needs on the reflector. Several tower parties have been held recently to maximize station capabilities, and there is opportunity to do more. Download WSJT and use it prior to the contest. Check the hot-rocks web site and make your pre-contest scheds. Get on the rover route plans for important multipliers. Come to the Dec 20th Contest Preparatory meeting.

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Mark your 2002 Calendars now for these "scheduled" events

January 3, 1650Z - Quadrantids meteor shower
January 19-21, 1900Z-0400Z - ARRL January VHF Sweepstakes
April-May, dates TBA, Spring Sprints
April 22, 1030Z - Lyrids meteor shower
May 17-19 - Dayton Hamfest
June 8-10, 1800Z - 0300Z - ARRL June VHF QSO Party
August 3-4, 1800Z - 1800Z - ARRL UHF Contest
August 12, 1720Z - Perseids meteor shower
August 17-18, 8AM - 8PM - ARRL 10-GHz Cumulative Contest
September 14-16, 1800Z - 0300Z - ARRL September VHF QSO Party
September 21-22, 8AM-8PM - ARRL 10-GHz Cumulative Contest
Sept-Oct, dates TBA, Fall Sprints
October 24-27 - Microwave Update 2002/Eastern VHF-UHF combined Conference sponsored by N.E.W.S.
November 19, 0040Z - Leonids meteor shower
December 14, 1000Z - Geminids meteor shower

Club Activity December 2001

SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3 Nets start at 730pm on 6m	4	5	6	7	8
9	10 Check p2 for net details-Check	11	12	13 BdofDir 8pm-AA3GN map p 9	14	15
16	17 in and assure your rigs R ready	18	**Annual Contest Meeting at Southampton Free Library-Thu 12/20 8p Chairman: AA3GN, Joe Landis Get Contest Packets, share plans, ask questions, get answers!**			22
23	24 Placing or hoping?	25 Unwrapping the new rig?				29
30	31 Happy & Healthy New Yr					

Microwave Update 2001

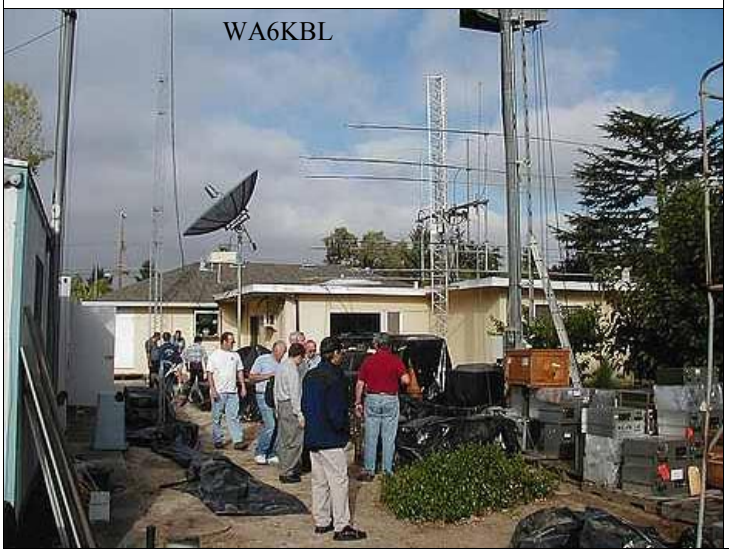
Via the internet from G3PHO

This year's 16th Annual Microwave Update was held at the Four Points Sheraton Hotel in Sunnyvale, California. Sunnyvale lived up to it's name as it was glorious sunshine and high temperatures throughout the Update weekend. Well over 100 amateur microwavers from all parts of the world, Australia, Japan, UK, Germany, Canada and the USA, attended these immensely enjoyable and rewarding few days. "MUD", as we now call the event, has become an annual pilgrimage for many microwavers. Only here can you meet and become friends with the well-known operators, experimenters and other personalities that you otherwise would only read about or come across on the Internet. Only here can you discuss, at your leisure, topics of common interest with knowledgeable microwavers such as Jim Vogler (WA7CJO), Paul Wade (W1GHZ), Barry Malawanchuk (VE4MA), Chip Angle (N6CA), Will Jensby (W0EOM), Kerry Banke (N6IZW), John Anderson (WD4MUO), Doug Millar (K6JEY) and the like. An extra attraction is the surplus equipment for sale at Update ... you will be amazed at the quantity and quality of it.

If you haven't been to a MUD meeting then it's about time you did! You owe it to yourself. Next year's event will be held in New England, USA. MUD 2001 was held at the Four Points (Sheraton) Hotel in Sunnyvale. A special room rate had been arranged by the 50 MHz and Up group. A party of UK microwavers managed to get the special room rate extended for the whole time we were there, several days beyond the official end of the microwave convention.... thanks Four Points!

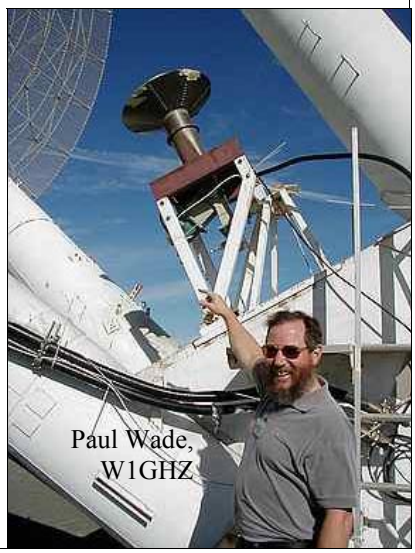
Every Update starts with a grand tour of the local radio surplus stores and warehouses. Silicon Valley around Sunnyvale has a wealth of such surplus parts and equipment. We were provided with a map of where to find the stuff and the rest was up to us. Dave (G6GXK), Gunther (VE7CLD) and myself (G3PHO - Peter) were taken around by Mike (AA9IL) who had a rental car for the weekend.

The highlight of the surplus tour was the home of Jeffrey Pawlan, WA6KBL ... he must have a VERY tolerant wife as the photo below indicates. What really impressed us "Brits" was the multiplicity of towers and antennas that Jeffrey was obviously able to erect in his yard. Over here in the UK we would never get away with this sort of antenna farm. He had several dishes, including the big EME one shown below, as well as stacked VHF/UHF arrays for weak signal work. The yard was covered in surplus units that he was anxious to sell on.



WA6KBL

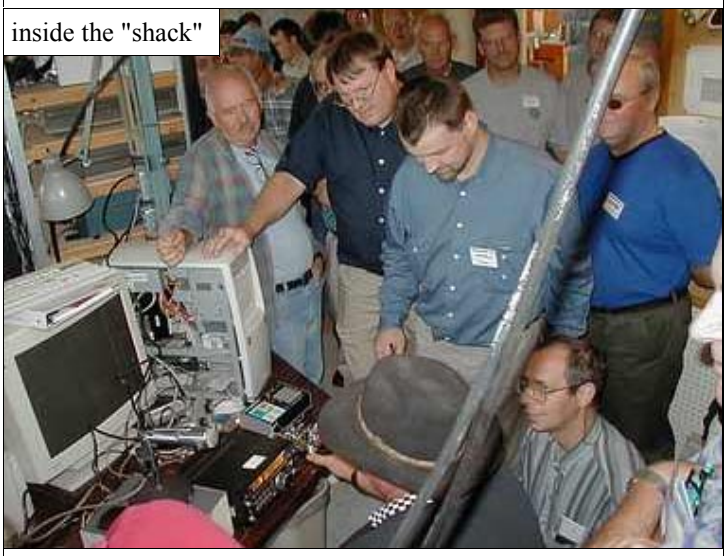
After the surplus tour we had lunch and then joined a convoy of cars to drive several miles out of town to the 150 foot diameter dish at the Stanford University site. This was an incredible sight. The aim of the visit was to see the dish of course but also to experience amateur EME ("moonbounce") via the 23cm band. Jeffrey Pawlan, WA6KBL had, all by himself, organised an EME test for the late afternoon and we were hoping to hear some really good signals via this mode.... we were not disappointed! He had spent more than a week wiring control systems to work with the existing cabling on the Stanford dish and testing every item. The dish dwarfs everything around it! It's several decades since it was put together but it still functions well. Seeing it brought back memories of the pioneers of amateur "moonbounce" ... people like Sam Harris of W1BU and Arecibo dish fame back in the late '50s and '60s. The Stanford dish is shown here with the feedhorn support arms lowered to the ground. Lowering the feed support this way would also work in a much more modest amateur system, allowing quick change of feeds and transverters mounted at the feedpoint. Paul Wade, W1GHZ, admires the 23cm feedhorn. He's probably wondering how it would look on his computer simu-



Paul Wade, W1GHZ

lation software! Notice the feeder cables and other control lines. Remember that the operation position is in the building behind the dish ... a long way from this feed! With the dish ready for use it was time to go inside the "shack" to see what was going on 23cm. The 23cm EME tests begin and a "pile-up" results! Received signals, including the station's own moon echoes were very impressive. 'Normal' RST reports were able to be exchanged rather than the more usual M and O type reports used with weaker signals. It sounded more like 20 metres than 23cm EME!

inside the "shack"



After a fascinating first day at Update, we wondered what could be better but these next two days lived up to the tradition set by previous Updates ... excellent technical lectures during the day and rewarding surplus "fleamarkets" in the evening.... and all this within the confines of the hotel.

We can't cover all the lectures on these summary pages but here are a few of the highlights. A wide range of topics was covered from mobile microwaving in the Rockies to 24GHz moonbounce and operations on the 76GHz band! In all these topics the obvious enthusiasm of the speakers came through so well.

Bob Johnson, KF6KVG, long-time friend and 76GHz partner for Will, W0EOM, described his world record making equipment for that band. The availability of surplus modules in the Silicon Valley area makes this a little easier for these folk than the rest of us in Europe where the most direct route to the 75/76GHz band would be the purchase of expensive German kits and mixer diodes. Bob and Will are to be congratulated on their recording breaking contacts.

The evening fleamarket tables provided a great range of microwave "goodies" and your scribe was able to get a few items that he had been seeking for some time. Tables were set out permanently for the more "commercial" folk such as Down East Microwave (complete with Steve Kostro, N2CEI, of course!)but others, the amateur sellers, had to lay their stuff out just for the evening.

On the Sunday morning there was an outdoor fleamarket set up in the hotel carpark. The "left overs" from the evening fleamarkets turned up here as well as surplus seen for the first time and brought in by amateurs from the local area. Update is where you put the faces to the names. As in any hobby there are well-known personalities whose names appear in magazines or who are heard on the air doing marvellous things! You meet these folk at Update! You also find that they are not much different to yourself... they are enthusiastic AMATEUR RADIO MICROWAVERS. I have found all the ones I have met to be most friendly and very helpful with advice and information. The Update Convention came to an official close with an excellent banquet in the hotel on the Saturday evening. As is usual at these events there was a prize draw, with everyone getting a little something to take home. It was here we said "au revoir" to the new and old friends we had been with for the past few days. The next morning saw us at the carpark fleamarket and then off to do some sight seeing before flying home to the UK on Tuesday morning.

I hope you have found it interesting enough for you to decide to attend next year's event. In 2002 it will be held in New England, USA. Keep looking at Paul Wade's(W1GHZ) website as he will have lot to do with the organisation. It will be held in the "Fall" when New England is arguably at its most beautiful. See you there! Meanwhile, we thank the microwavers of the 50MHz and Up Group in California, and all the other Americans we met, for their hospitality this year.

Tnx to Peter, G3PHO for posting this review and the photos on the web. This should be a stimulus for Packrats to attend next year's MUD, hosted by our friends and neighbors in the N.E.W.S. group. K1DS, Editor.

Renewing Licenses

Via the internet from WZ1V and the NEWS Group

A couple of you asked me at the last club meeting about how hard it was to renew your ham license electronically via http://www.fcc.gov/wtb/uls

Well, it took me about 10 minutes. I renewed on Tuesday and got my new license in the mail today 4 days later. All you do is register your TIN using your social security #, associate it with your callsign(s), and you're ready to fill out the renewal online. The RF Safety thing with your station is just something you sign off on as being compliant, and we have the evaluation software on our webpage http://www.newsvhf.com anyway if you're not sure. If successful, you'll see a confirmation page. Note this is the ONLY way you can renew right now because of the government mail scare. You can only renew anytime between 0 and 90 days of expiration on the ULS page. Anyway this is the fastest and easiest thing I've ever done with the FCC, it looks like they finally got their act together and deserve a kudos!

-73, Ron WZ1V

SEASONS GREETINGS

6M Openings and Leonids Meteor Storm Reports

K1JT: Things started getting interesting in the sunspot-related departments around the third week of October. A good aurora on October 21 gave me 20 QSOs from VE2 to Oklahoma and Wisconsin, nearly all on 2 meters. The next morning 6 meters was open to Europe, and things have been hopping on that band ever since. I just went through the log and extracted the following summary of QSOs made via F2 propagation on 6 meters between October 21 and November 18:

Pfx Country	QSOs
4X Israel	1
9H Malta	1
CT Portugal	5
CU Azores	1
DL Germany	25
E3 Eritrea	1
EA Spain	17
EI Ireland	6
F France	17
FY French Guiana	1
G England	53
GI N. Ireland	9
GM Scotland	17
GU Guernsey	3
GW Wales	15
HB Switzerland	2
HC8 Galapagos Isl	1
HK Colombia	1
I Italy	8
IS Sardinia	1
KH6 Hawaii	1
KL7 Alaska	8
LZ Bulgaria	1
ON Belgium	10
OZ Denmark	7
PA Netherlands	14
PY Brazil	1
SM Sweden	8
SP Poland	2
TI Costa Rica	1
V7 Marshall Isl	3
XE Mexico	3
W6 CA	59
W7 AZ NV UT ID WA OR	50
VE6 Alberta	1
VE7 Br Columbia	9
W and VE Backscatter	6

That seems to make a total of 369 F2 QSOs in 34 DXCC entities, in less than a month. I've no idea how many grids were involved, but my log says that in these 25 days my six meter DXCC total has climbed from 33 to 57 and grids from 319 to 427. I also did not count the states worked, but I do know that last Sunday brought both Utah and Hawaii, for numbers 49 and 50 on six meters (I set my odometer for all these counts back to zero in June of 1999, when I got back on after a long absence). This propagation is not bad for a sunspot cycle that we thought was well past its peak some six months ago!

The rest of the recent fun for me was the Leonids meteor shower. What a show on the night of November 17-18 night! -- and on the radio it seemed that it was even better during daylight on Sunday, the 18th. Because of the fantastic 6 meter opening on the same day (it was open from FN20 to somewhere for more than 11 hours, according to my log!) I spent little time chasing meteor QSOs on 2 meters. When I did, however, that was a thrill also. My wife definitely thought I was bonkers that day. I worked KC5WX in Texas and KU4WW in Alabama for 2-meter states number 35 and 36, and also stations in IA, SD, AR, OK. What a treat! Most of these were randoms on SSB. It has been very hard to go to work these recent weekday mornings, with the Europeans just starting to come in again on 6.-- 73, Joe, K1JT

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K3EOD: 6 METERS IS GOING BERSERK WITH OPENINGS ALMOST EVERY MORNING AND LATE AFTERNOONS. HERE ARE THE GRID SQUARES I HAVE WORKED DURING THE LAST COUPLE OF DAYS:
BP 51, 64, 71, 72 (ALASKA); CO 88; CN 87, 88 (BRITISH COLUMBIA, CANADA) DO 33, JO 01, 46; IN 56; IO 18, 55, 64, 67, 68, 70, 72, 73, 74, 75, 81, 83, 86, 92; IP 62
COUNTRIES I KNOW I HAVE WORKED ARE: CANADA, DENMARK, ICELAND, SCOTLAND, IRELAND, ENGLAND, WALES AL K3EOD

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K2TXB: Please post on HSMS or one of the other lists if you made any contacts over 1450 miles as many of us are interested in the long dx. I have not heard of any long contacts yet, but am hoping some were made. My own best (for this shower) is around 1350 miles, but I know some SSB contacts were made about 100 miles further than that. My long haul skeds (1640 miles and 1730 miles) were a bust. I had serious line noise problems during most of the shower here. Band has been quiet at this QTH for months, and the da@#$%^&* line noise has to kick up on the day of the Leonids!

Made some contacts via WSJT during the peak with stations over 1300 miles and with 15 second sequences found contacts very easy to complete fast. Saw many reports of "heard you change from R27 to 73", or similar. Once the burn started the WSJT contact would typically be over within 30-45 seconds. Not quite as fast as SSB, but close, and no confusion on call signs with WSJT.

Worked some via SSB towards the end and as always in good Leonids the burns were long and possible to chat a little with the stations - lots of fun and looking forward to perhaps a repeat performance next year! (hope hope) Now for the Geminids… 73 all, Russ K2TXB
PS: The current 2 meter WSJT record before this shower was 1464 miles, set my VE5UF and myself from my FN02 QTH. I'm hoping someone was able to better that in this shower.

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Well, the Leonids this year were fairly impressive here just as they were for everyone else. Not as good as 1998, but much better than the last 2 years put together. As far as going past the 1450 or 1500 mile mark, I too have not heard of any contacts doing so. My best was with **AA2UK** in FM29pn at 1315utc. Grid Squared gives the distance as 1432.2 miles. The burn lasted for 10 to 12 seconds. After completing with AA2UK, K2SMN in FN20 called but I didn't hear the RRR's. That would have been 1423.5 miles. One other interesting comment. Being in the center of the country, it was kind of unique to hear the radiant set as the signals gradually died off from the east to the west. Last contact was with N6YM at 1923utc. 73, Gary N0KQY DM98gk
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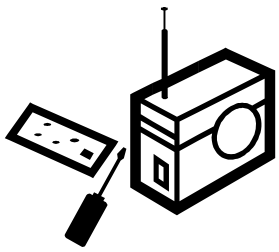
AA3GN: *(microwave activity day)* I only worked 2 stations, W3IY and AA3RE on 2 bands, 903/1296. Didn't have much time to operate - wx was too good to pass up fun things like scraping and painting woodwork and replacing rotten barn wood :) Pete was very loud and sounds like he is making some major improvements on 903. I heard IY off the back of his ant working one of the guys down south, loud. He was s9+10-20 on 903, and gave me an s9. He was strong on 1296 but I definitely need more/better (linear) power there. 144.260 was very busy setting up contacts etc. I would try to move off asap to coordinate. Soon we may have another "calling frequency discussion" - I hope not! Some guys only had 10GHz. Wish more would do the neglected middle microwaves like 3 and 5GHz. There seemed a lot of activity to the South. This is great - hope we can keep up the momentum, especially after the wx turns so bad that we can't do the outside chores. I'm still in build up mode here, but at least I've been working mostly inside. So I spend a lot of time listening while doing station work. Worked a G0 easily on Friday 11/16 around noon on 6 meters. My first contact across the pond on 6. Sunday AM the Leonids sounded hot. Heard lot's of nice long burns and many contacts were made. Lot's of Rats on. Sunday I had set the alarm for 4AM but was so beat from working on N3ITT's tower with N3EXA the day before, I just couldn't get up - even to look outside. Al's 6M antenna and feed were repaired, but we have some more to do. Al is in buildup mode too, and I think he's going to be a real challenger this year! Heard rumors of big power on the lower bands and additional band at the top. W3KM's 3456 station is much improved with 40W now on XMIT. He was S9+60 during a Friday night test. Yes, I have the dish up at 90 feet now for 2.3 and 3.4, and it really works. 3.4 beacon is also S9+60. Still need to fixup 2.3, and get tower top boxes up for 3.4-10GHz. Should end up with 40, 10, and 4W at the antennas for 3,5, and 10GHz. Also 20W in the shack on 2.3. Will try for tower top power there too. I may be adding some power on the lower 3 bands as well. It should be a very interesting January contest! 73, Joe - AA3GN

432 MHz Fall Sprint

I finished the logs tonight and the following are the preliminary results for the 432 MHz Fall Sprint.

W4RX 1,425 (*Top ten only listed. Packrats bolded, Ed)*
K2SMN 817
WA3DRC 595
K4EME 510
W1ZC 286
K3EOD 260
WA8RJF 216
K6TSK 184
KF8QL 144
WB2SIH 144



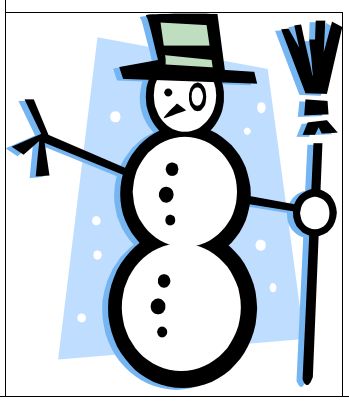
If you sent your log to me and you are not on the list or if you think I have your score wrong let me know by the last day of this month (November). These results will become final December 1st so speak now or forever hold your peace. The final results will be posted on the Southeastern VHF Society website (www.svhfs.org) and the certificates for 1st, 2nd and 3rd place will be mailed out by the end of the year. A couple of comments. Logs submitted were up somewhat from last year which is always good. I am also very impressed with the W4RX score which I believe is the largest I have seen for this sprint. W3IY was guest operator. I need to see how I can be a guest operator there for a contest! Keep up the good work folks and thanks for your participation. 73 Jim W4KXY w4kxy@bellsouth.net

Quartermaster Call

Bert Soltoff, K3IUV, reported that he is updating the inventory of club property from the last listing he has, which is a February 1982 file. Please contact him if you have any Packrat equipment that needs to be added to the inventory. There have been several inquiries on the whereabouts of the Packrat statue. Information leading to it's recovery is welcomed.

FCC Announces Mail Changes for Gettysburgh Office

ARLB048: FCC Announces Mail Changes for Gettysburg Office The FCC's Gettysburg, Pennsylvania, office has moved its mailroom offsite. Effective immediately, all overnight couriers--including FedEx and UPS--require the "ship to" address for the FCC Gettysburg office to be Rear entrance, 35 York St, Gettysburg, PA 17325. The FCC said it's trying to balance accessibility with the need for heightened security and encouraged its customers to make full use of the Commission's electronic filing systems. The Gettysburg office is where Amateur Radio applications are processed and licenses issued by the Wireless Telecommunications Bureau. It's also where Special Counsel for Amateur Radio Enforcement Riley Hollingsworth has his office. The change does not affect US Postal Service deliveries. The FCC said the USPS will continue to accept and will divert all mail addressed to 1270 Fairfield Road, Gettysburg--the office's physical location--to the off-site mailroom. Until November 30, the FCC itself will divert overnight courier deliveries to 1270 Fairfield Road to the new off-site mailroom. "This new off-site mailroom facility does not affect applications or any other filings requiring a fee," an FCC Public Notice said. Unless paid on-line using a credit card, amateur vanity call sign fees go to the FCC's contractor in Pittsburgh. Requests for amateur fee refunds, however, are sent to Gettysburg. The FCC also said the staff at the Gettysburg filing counter at 35 York Street will not accept hand-delivered documents enclosed in envelopes. The filing counter is open weekdays 8 AM until 4:30 PM. Originals and copies of each official filing must continue to be addressed to the Commission and held together with rubber bands or fasteners. "Stamp and return" copies will be provided as long as they clearly accompany each individual filing.



Filings requesting confidential treatment under the Commission's rules must also be filed without envelopes. The staff at the filing counter will enclose such filings in an FCC envelope labeled "confidential."

Questions concerning the FCC Public Notice should be directed to the Building and Facility Management Specialist, rhewitt@fcc.gov or 717-338-2535.

Correspondence

Here's the URL for the San Bernardino Microwave Society web page. Lots of good info. 73, Harry, W3IIT

http://www.ham-radio.com/sbms/

OH5IY MS-SOFT rel.5.1 Meteor Scatter prediction software see http://www.newsvhf.com/vhf-soft.html *via WZ1V and NEWS*

I just want to share the experience Bernie, W4SW and I had this afternoon on 24 es 47 GHz. Bernie had predicted that the cold front was bringing some dry air into the area, so we decided to try the bands over a 84km path. I arrived at Hogback mountain (FM08us) at about 1640, and got set up on 24/47 GHz. Without much precision, I aimed at Bernie in FM19ha using a rough compass heading. I immediately heard him S9+ on CW on 24192.105MHz, and peaked the az/el. I peaked the dish, and let him know I was hearing him FB on 144.260. Then I transmitted, and he peaked on me. When he came back to me, he was pinning the meter on the IF rig...a very encouraging sign. He was running 80mW. We easily exchanged reports on SSB, then QSY'ed to 47 GHz.. Almost immediately, I heard Bernie on CW. Re-peaked the dish (I am not yet boresighted between the 2 bands). Sigs about S4-S6 with some QSB. The wind did not seem to affect the signals, as I had expected. There seemed to be no long-term fading, like I am used to on 432/1296. This appears to be an LOS path, based on path profiles created. We exchanged reports, rogers, es 73s on CW, and decided to try another overlook, a few miles closer, with a better horizon. This time we immediately heard each other on 47 GHz, and with better antenna headings, signals were peaked up much better. We worked on CW, and then on voice. Bernie was actually pinning the meter on phase modulation, as copied in the FM mode if the FT-817. I returned fire on FM, and we had a nice voice chat. I then transmitted to Bernie on SSB, using just the DB6NT xvtr at the -10dBm output level, and he copied S9. We were both amazed! I think the dry air played a large part in the strong signals. Frequency drift on 47 GHz was a problem on my end...I have a scotch exciter xtal, which dropped freq like a rock in freq when the 24GHz doubler was switched to xmit (it was generating heat, and the cool air and wind had significantly cooled the mounting plate). We discovered an effective mm-wave operating procedure, which minimizes the time spent on 144.260...begin each transmission with a 20 second carrier. This gives the other guy a chance to retune you with his drifting RX LO, and your drifting xmit LO. At 47 GHz, you usually need one hand on the dial, unless you are better ovenized than we are. It was really fun...after lots of playing, fixing, and testing. Here are some details… Dew Point about 27deg F Humidity around 30% Temp around 55deg F Wind gusting to 25 mph Leaves slightly past peak, but beautiful golden color at low-altitudes Deer plentiful and well-behaved Visitors about 8-10...very intrigued by the mm-wave aspects
47GHz xvtrs harmonic mixers
47 GHz xmtrs diode doublers with >20mW output
47 GHz NF 11dB, estimated, SSB (no preselectors or preamps...yet) 47 GHz antennas 25cm dishes, splashplate feed, 39 dBi, estimated 24GHz xvtrs harmonic mixers
24 GHz xmtrs 80mW-W4SW, 500mW-W3IY
24 GHz NF <2.5dB, system
24 GHz antennas 48cm dishes, splashplate feed, 39 dBi, estimated operators: mm-wave converts.
73, Bill W3IY

Pack Rats:
Making power on 2304 has always been a problem. It seems this is the only band that surplus power amplifiers are not available for. John, KB3XG recently discussed his 2304 linear which is a certainly a possibility. I have some SD1870 transistors left over from when I worked at Thomson. In 1984 I built up 20W Class-C and 10W Class-AB amplifiers using this device. The common base linear version does 9-11dB gain at ~10Watts. The amplifier requires an etched pc board and a machined housing of some kind. I have a Word document that I re-worked from a MacIntosh document, which contains the schematics, artwork and a basic mechanical drawing of the unit. The first paragraph reads: This is not a Heathkit. The following are general hints for building a 10-Watt common base linear amplifier for 2304 MHz. It is assumed that the builder has previous experience with microstrip power amplifiers and their mechanical construction. There are many of these units still in operation today, including the ones I still use.
If you are interested in building a 2304 linear, let me know and I'll E-mail you the Word document. I will give devices to Pack-Rats who will build this project. W3KM

Rick, The Cheesebits PDF copy came over beautifully. The color pictures vivid! Truly an enhancement in Publishing(I used Adobe 5.0), It'll be hard to misplace a copy now. Thanks Carl WB2RXM

Wow! This new format is impressive, Rick! The improvement in what can be done over paper is tremendous...color photos, image quality, etc. Its another one of those "how did we ever do it before..." type of events! Thanks!! 73, Roger Rehr W3SZ
ex AA3QK, WA3JYM FN20ah

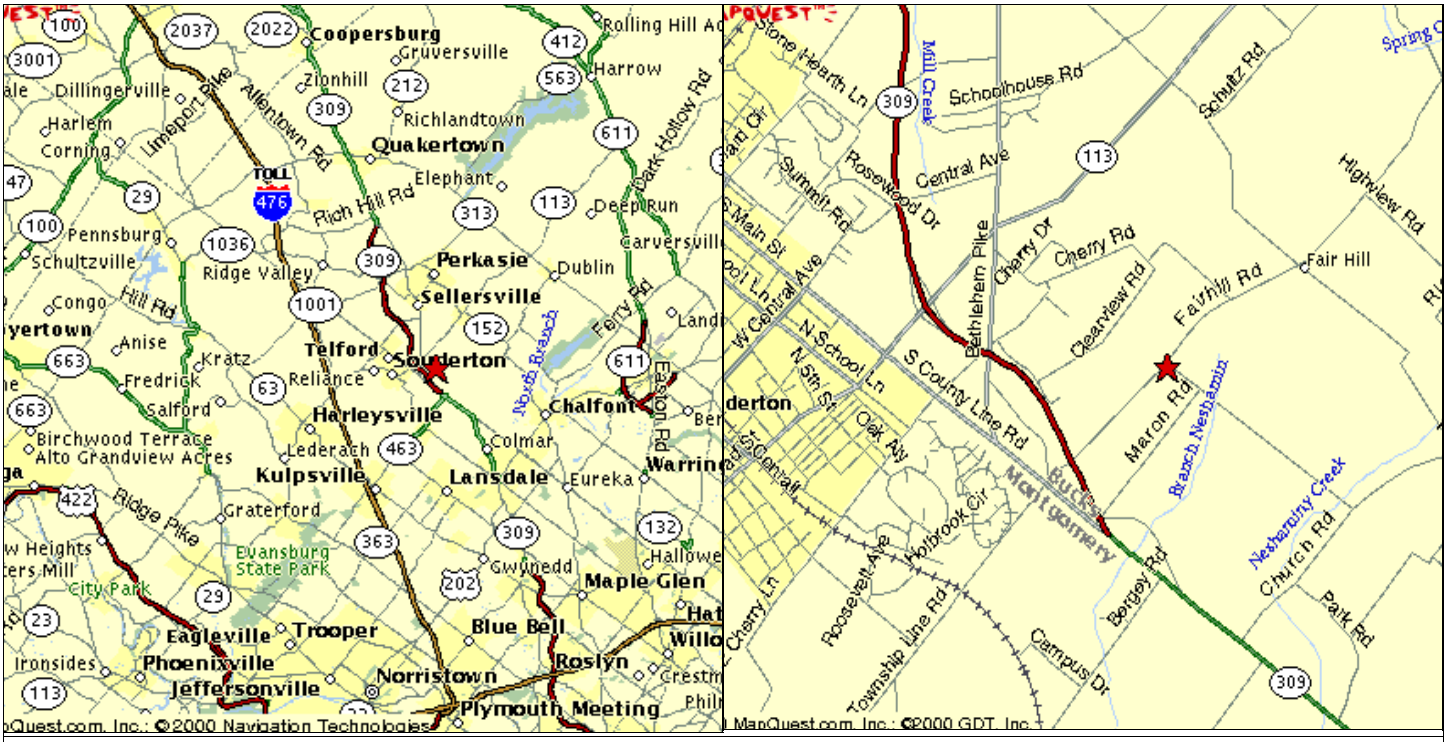
Really GREAT job on November Cheesebits. With e-mail delivered via cable modem, no problem w/1 mb attachment. Once downloaded, came up extremely quick (FYI older MAC G-3).
Was a little apprehensive about giving up my mailed hard copy Cheesebits, but I'm a real believer in the pdf distributed version now! Congrats on a job well done. Bill K3MFI

Nice job Rick. Took awhile to down load but well worth it. Was sad to see your hamfest on a very busy weekend this year. Not only the EME first leg, but also the Pa QSO Party. Hope the rats get clear of that weekend next year. Best wishes
Herb K2LNS and WA2FGK

Attention all Postal Subscribers: You have undoubtedly received several red tag attachments encouraging you to get your future copies of CheeseBits delivered via the internet on email. Not only is this a time, money and labor-saving option, but you will get to enjoy a vivid color copy, printable at your QTH. Thanks for all the feedback from the readers! Several clubs have chosen this option, and some outstanding issues have been produced by other club editors on PDF, notably the Rochester VHF News, The EME News, and the Pittsburgh based WASHRAG, with whom we share complimentary PDF copies. To get in on this opportunity, and reduce your future subscription costs, send an email to the editor with your email address.

rick1ds@hotmail.com

Many thanks to Rick, K1DS for the neat club project that many of the club members assembled at the last meeting. My personal appreciation for the time and effort he put in to promoting, kitting, and nurturing the assembly and test of the laser communicators. Those of you that did not participate missed a good opportunity. The club needs more projects like this (my opinion). 73, Bert - K3IUV



You Must Have Attended Two Meetings to Be Counted as a Member for Club Score Submission for 2002 VHF Sweepstakes.

The Maps above are centered on the QTH of Joe Landis, AA3GN, at 16 Fairhill School Rd Hatfield (really Hilltown - but he has no PO), PA 19440. The December Board of Directors meeting will be held at his QTH on Thursday, December 13th at 8PM. This will be an opportunity to have another meeting on your record—all members are invited as this is an open business forum. It's also an opportunity to see his new heightened tower and antennas. C U there OM.

Movin' Your Cheese (buy-sell-swap)

For Sale: used, in very good condition, stored indoors since removal from the tower.
1- 38' length of 7/8" Andrew LDF5-50A
2- 82' lengths of 7/8" Andrew LDF5-50A
1- 105' length of 7/8" Andrew LDF5-50A
1- 107' length of 7/8" Andrew LDF5-50A
1- 79' length of 1-1/4" Andrew LDF6-50A --This is new cable, spool end. I was hoping some of you guys might be doing some tower work and could make good use of this material. Pricing is negotiable. Pickup at my place. Call me-- Home 610 286 9743 Shack 610 286 7450 Cell #2 610 563 7953 n3nge@IX.NETCOM.COM

For Sale: Kenwood TS-711 all mode The 6-pin DIN computer interface jack on the rear of the unit has been internally re-wired as a transverter interface jack. Jack provides 300 mW output for transverter drive, transverter receive, and PTT. External jumper across the DIN jack restores the unit to "normal" 25W transceiver. Unit supplied with AC and DC power cords. No microphone. I used this unit to drive my 903/1.2/2.3 and 3.5 GHz transverters. Works fine.$300.00 + shipping Dick K3MQH

For Sale Rohn 25 tower consisting of 4 standard 10 ft. sections and one 9 ft 25AG Top Section (you can get a 1.5 inch mast thru it). Asking $150—make offer. Tower is down and ready to load. I also have part of a Rohn 25 tilt-over assembly. I have the long lever arm that sticks out as the top of the tower tilts over and half of the short folding section (I never had the other half - you know how these deals happen). If you're handy with a torch (hello Al), you should be able to make a complete hinge section. Make an offer on this.
Wanted: 30-40' aluminum crank-up tower for the FL QTH in EL98. Delivery appreciated, and may barter some lodging and pool use. 73, Harry, W3IIT harryhbrown@earthlink.net

Laser Communicators Built

With the assistance from Rick, K1DS, Paul, WA3GFZ and Walt, N3EVV, a dozen club members constructed LASER communicators at the November meeting. Using the circuitry previously described in earlier issues this past year, both transmitters and receivers were constructed by each of the members who paid in advance for the parts, that were conveniently arranged in kit form. Almost everyone who participated departed with a completed and working set, and those who were only partially completed by the end of the session had tested their components for assurance that they were done correctly and would work when finalized.

Costs were minimized thanks to the lot purchasing of the lasers and photocells on the internet. In addition, the use of 3" photocells greatly enlarges the capture area for the receiver sections. Even batteries were included to assure that everything was complete, and that no-one would walk away without the ability to make a complete 440 tHz QSO.

It was a night of drilling, wiring, mounting and soldering. Use of foam board, recommended by N3EVV, made the photocell mounting secure in the 4" PVC end-cap. Every kit came complete with a 12" PVC tube for reduction of random light noise, and an 18" aluminum rail for mounting and aiming the laser. With the 4-40 screws supplied, one turn of the screw gives approximately a 0.5 meter movement of the laser beam at 1Km. No doubt the enterprising engineers in the group will refine the system to enhance both ease of operation (W1JT was already considering digital control modes) and others were wondering how micrometer az-el movement could be accomplished. An added option was an LED as a receive "on" indicator. An additional kit may be available for a Packrat who was unable to attend. Please contact rick1ds@hotmail.com if interested.

FAR Scholarships

THE FOUNDATION FOR AMATEUR RADIO, INC, a non-profit organization with headquarters in Washington, D.C., plans to administer sixty-two (62) scholarships for the academic year 2002-2003 to assist licensed Radio Amateurs. The Foundation, composed of over seventy-five local area Amateur Radio Clubs, fully funds seven of these scholarships with the income from grants and its annual Hamfest. The remaining fifty-five (55) are administered by the Foundation without cost to the various donors.

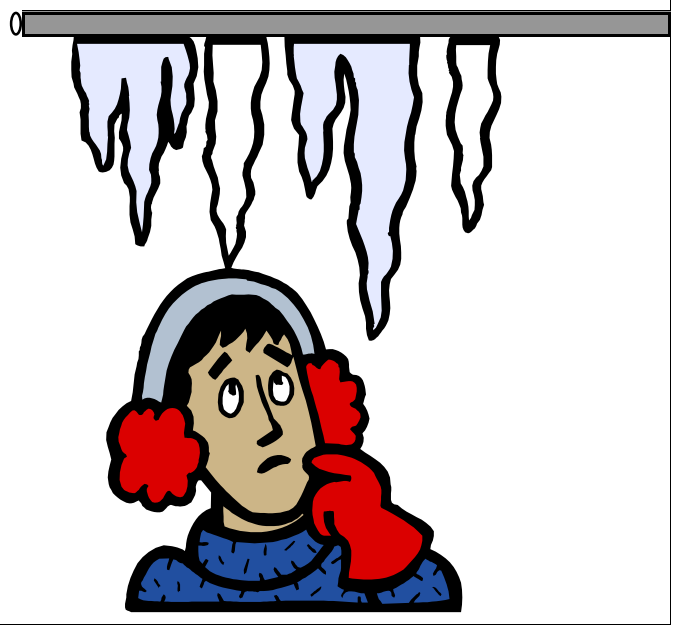
Licensed Radio Amateurs may compete for these awards if they plan to pursue a full-time course of studies beyond high school and are enrolled in or have been accepted for enrollment at an accredited university, college or technical school. The awards range from $500 to $2500 with preference given in some cases to residents of specified geographical areas or the pursuit of certain study programs. Clubs, especially those in Delaware, Florida, Maryland, Ohio, Pennsylvania, Texas, Virginia and Wisconsin, are encouraged to announce these opportunities at their meetings, in their club newsletters during training classes, on their nets and on their world wide web home pages.

Additional information and an application form may be requested by letter or QSL card, postmarked prior to April 30, 2002 from:

FAR Scholarships
Post Office Box 831
Riverdale, MD 20738

The Foundation for Amateur Radio, incorporated in the District of Columbia, is an exempt organization under Section 501 (C)(3) of the Internal Revenue Code of *1954*. It is devoted exclusively to promoting the interests of Amateur Radio and those scientific, literary and educational pursuits that advance the purposes of the Amateur Radio Service.

How are we gonna prevent antenna ice-ups in this coming VHF Sweepstakes? Let's discuss at the Dec 20th meeting.



Low Battery Voltage Indicator Circuit

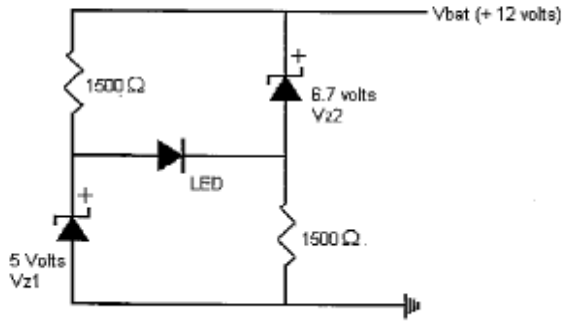
By Don Nelson, NØUGY

Reprinted from Rocky Mountain VHF+, Sept 2001, V9 Issue 1
(This appeared to be a useful tool for rovers and other battery operated stations, ed)

A fellow HAM came to me and asked for a simple circuit to monitor battery voltage and activate an indicator when the battery voltage falls below a prescribed level. So the challenge was to build something that was simple but effective for indicating that the battery voltage was above a threshold or not. The solution here uses five passive components and no additional power sources. Four of the components are in a bridge arrangement with the fifth component an LED across the bridge as the detector. The bridge circuit is illustrated below. Each half of the bridge has one resistor and one Zener diode. The resistor provides bias current to the Zener diode. One Zener diode is connected to ground and provides a reference voltage above ground. The other Zener diode is connected to the battery high side providing a reference below the battery high side. When an LED is placed between the two Zener diodes, the LED will conduct current when the difference between the two Zener diodes is greater than the Zener forward bias voltage, which is 1.7 volts for some LEDs.

The equation for when the LED will forward conduct is as follows: if Vbat < Vzl + Vz2 - 1.7, then the LED will be forward biased and will conduct and illuminate. For an LED to indicate a low voltage at 10 volts a Zener pair of 5 volts and 6.7 volts will work with a Zener diode with a 1.7 volt forward voltage drop. A Zener pair of 3.9 volts and 8.2 volts with provide an indication of a voltage below 10.4 volts. The LED is the brightest when the voltage is just below the threshold and will dim as the battery voltage decreases from there. The value of the bias resistors and the properties of the LED will determine how bright the LED will be when conducting. A "bright" low current LED works well with two 1500 ohm bias resistors. If the Vbat is to get large, then the LED could be put in series with a diode with a sufficiently high reverse bias voltage to protect the LED. If the LED voltage to be used is other than 1.7 volts, then adjust the above equation accordingly.

Low Battery Voltage Indicator Circuit



Icom America has a color "U.S. Grid Square Map" that covers the U.S. and southern Canada. It can be found on line at: http://www.icomamerica.com/downloads/usgridsq.pdf

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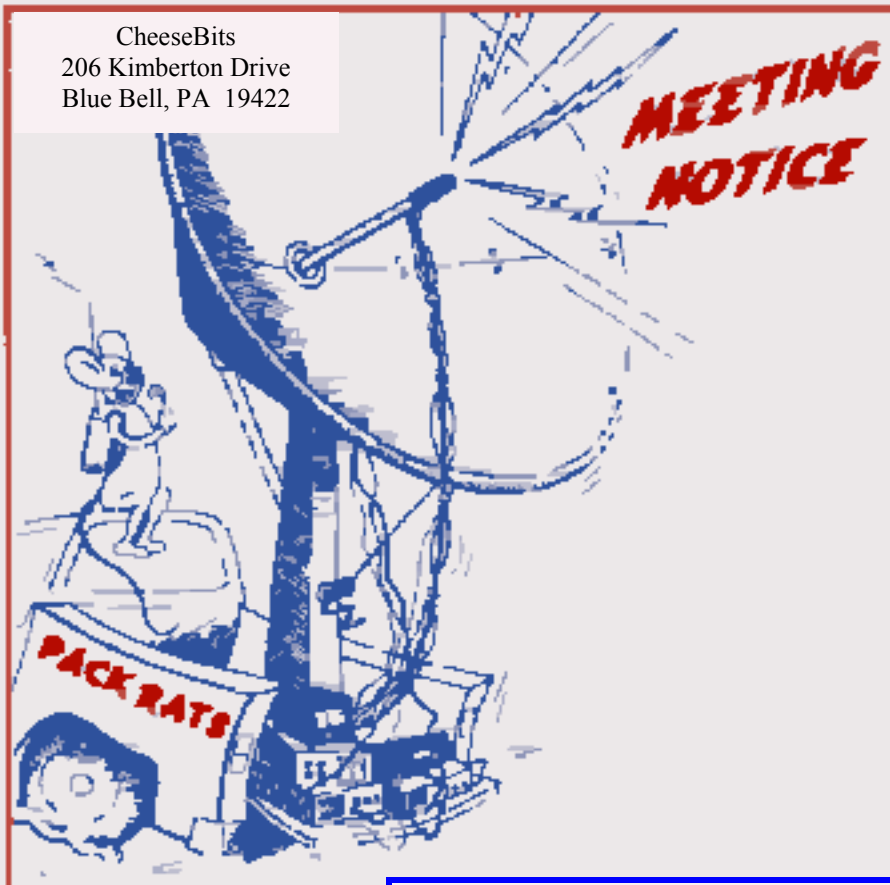

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