

PACK RATS'



PACK RATS

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

CHEESE BITS



MT. AIRY VHF RADIO CLUB, "THE PACK RATS", PHILADELPHIA, PA.
NET FREQUENCIES: 50.150, 144.150, 222.125, 224.58/222.98, 432.110, 903.100, 1296.100 MHz
AFFILIATED CLUB: AMERICAN RADIO RELAY LEAGUE

W3CCX

ARNS

Meetings: Third Thursday of each month at 8:00 PM
Southampton Free Library, 947 E. Street Road
Southampton, Pennsylvania 18966

VOLUME XXXVII

May 1995

Number 5

THE PREZ SEZ

Our thanks to Tom Dinyovsky, KB2AH, for giving us a real interesting talk on the design and manufacture of his 2, 4, and 6 tube amplifiers for 1296 MHz. Although many of us are running solid state power levels on 1296, there's no doubt that achieving above 50 or 100 watts on that band requires a tube. Tom's amps use the readily available 7289 water cooled for more than 100 watts output per tube. These amplifiers are nothing short of beautiful. Tom sure does a nice job putting these together in his spare time. Say Tom, how about bringing an amplifier up to Camelback in June so we can run some BIG power this year on 1296?

This is a busy time of year on the Packrat calendar. Our next major event is our Ladies Night Dinner on Saturday, May 13th at the Mill Race Inn, located in Holland, Pa. This is our chance to thank our XYL's for their patience and support of our hobby and to recognize those Rats who've made outstanding contributions to the club during the past year. We always have a great time at Ladies Night and this year the club has one or two new things you won't want to miss! Please call Bruce, WA3YUE, and let him know you'll be there.

The W3CCX callsign will again be heard during the June QSO Party, June 10th and 11th from FM21. Pat, WB3DNI, and the various band captains have been making plans for the weekend at Camelback Mountain. The contest site is an easy drive from our area and is perhaps the premier operating location in the Northeast, only second to W2SZ's Mt. Graylock location. There's lots of good DX to be worked from the mountain and an operation of this magnitude requires everyone's efforts. Mark your calendar and talk to Pat or one of the band captains to sign up!

Our May meeting will be ARRL Night with Director Hugh Turnbull, W3ABC, and Vice Director Kay Craigie, WT3P, and guest speaker Dave Newkirk, WJ1Z from the league with a talk and live demo of the ARRL RF design and analysis software. It's good to see an economical RF design package available; it looks like it does a lot of useful basic operations ... bring your favorite circuit schematic for a free test drive! As always, we'll assemble at the Village Inn for a Meet the Speaker Dinner at 6 PM. Please get in touch with Gary, WA2OMY, to make reservations.

CU in the sprints!

73, Paul Drexler, WB3JYO

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

SUBSCRIPTION RATE: \$10.00 PER YEAR (USA)
\$12.00 PER YEAR (CANADA)
\$15.00 PER YEAR (ELSEWHERE)

We operate on an exchange basis with other publications. Anything that is printed in **CHEESE BITS** may be reprinted, unless otherwise stated, provided proper credit is given.

DEADLINE FOR ARTICLES AND SWAP SHOP IS THE MONTHLY MEETING DATE. NON-COMMERCIAL SWAP SHOP ITEMS-FREE OF CHARGE.

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Ron Whitsel, WA3AXV
(215) 355-5730

PACKRAT 222 MHz REPEATER - W3CCX/RPTR

222.98/224.58 MHz, Churchville, PA


OFFICERS: 1993-1994

PRESIDENT: WB3JYO, Paul Drexler
VICE-PRES: WA2OMY, Gary Hitchner
REC. SECR: WA3AQA, Walter Zumbach
TREASURER: WA3JUF, Dave Mascaro
COR. SECR: N3AOG, Dick Comly
DIRECTORS: WA3AXV, Ron Whitsel (1 YRS)
WB2YEH, Bob Fisher (1 YRS)
N3IIT, Alan Sheppard (2 YRS)
WA3NUF, Phil Migulez (2 YRS)

TIME	<u>MONDAY NIGHT NETS</u>		
	FREQ.	NET CONTROL	
7:30 PM	50.150 MHz	K3EOD	
8:00 PM	144.150 MHz	W2EIF	
8:30 PM	222.125 MHz	WB2YEH	
8:30 PM	224.58R MHz	K3ACR	
9:00 PM	432.110 MHz	WA3AXV	
9:30 PM	1296.100 MHz	WA3NUF	
10:00 PM	903.100 MHz	N3AOG	

COMMITTEE CHAIRMEN

LADIES' NIGHT: WA3YUE 610-630-1875
JUNE CONTEST: WB3DNI 215-672-5289
HAMARAMA: WB3JYO 609-538-1687
VHF CONFERENCE: KB3XG 610-584-2489



THE AMERICAN RADIO RELAY LEAGUE **OST**

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Director, Atlantic Division

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COLLEGE PARK, MD 20740 (301) 927-1797


1-302-476-2757

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and
ADVANCED
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K3WAJ

G. B. WALLS 3208 CONCORD PIKE (RT. 202)
WILMINGTON, DEL. 19803

Graphic Design Illustration Production



Lynne D. Whitsel

209 Frog Hollow Road
Churchville, PA 18799
215 355-5730

Calendar of Coming Events -MAY 1995

- 3 **ARRL Spring 432 MHz Sprint** (Wednesday evening) 7-11 local time. See March QST, page 123 for rules.
- 5-7 **40 th Annual West Coast VHF/UHF Conference** at the Sheraton Cerritos Hotel in Cerritos, CA. For info send a SASE to the Southern California Six Meter DX Club, PO Box 10441, Fullerton, CA 92635 or call 714-990-9203, FAX 714-990-1340.
- 6 **ETA Aquarid meteor shower** predicted peak at 1522 UTC.
- 7 **Warminster Amateur Radio Association Hamfest** at the Middletown Grange Fairgrounds in Wrightstown, Pa. Talk-in on 146.69/.09 and 146.52. VE Testing.
- 11 **Packrat Board of Directors meeting** at the QTH of Bruce, WA3YUE, at 8:00 PM. All interested Parties invited. Call 610-630-1875 for directions.
- 13 **Packrat Ladies Night** will be held at the Mill Race Inn, Holland in Warrington, Pa. starting at 6:30 PM.
- 13-14 **ARRL 902, 1296, and 2304 MHz Spring Sprint**, 6 AM to 1 PM local time. These sprints will be held simultaneously. See March QST, page 123 for rules.
- 14 **Mothers Day.**
- 18 **ARRL Night.** Packrat general membership meeting at the Southampton Free Library on Street Road in Southampton, Pa. at 8:00 PM. All club members and VHFers invited. A "meet the speaker" dinner will be held at Village Inn at 6 PM. Call Paul, WB3JYO, for reservations. Nominations for the election of officers in June will be accepted. David Newkirk, WJ1Z, will be the speaker giving a talk and demonstration on the ARRL Radio Designer. Hugh Turnbull, W3ABC, Atlantic Division Director and Kay Cragie, WT3P, and Vice Director will also be attending.
- 19-21 **Atlantic Division Convention and 61ST Annual Rochester Hamfest** at the Monroe County Fairgrounds near Rochester, NY. Talk-in on 146.28/.88.
- 20 **Armed Forces Day**
- 20 **The 10th Annual Ephrata Area Repeater Society Hamfest** will be held at the Ephrata Senior High School, Ephrata, PA. Talk-in on 144.85/145.45. VE Exam at 9 AM.
- 20 **The Cherryville Hamfest** will be held at the Warren County Fairgrounds near Phillipsburg, NJ. VE exams will be given.
- 20-22 **ARRL 50 MHz Spring Sprint** 2300Z May 22 (Saturday Evening) until 0300Z May 23. See March QST, page 123 for rules.
- 28 **Memorial Day Hamfest** will be held at the Howard County Fairgrounds, Rte #144, West Friendship, MD. TI on 146.16/.76.
- 30 **Memorial Day.**

ATLANTIC DIVISION ADVISORY COMMITTEE MEMBERS

Contest Advisory Committee, Tim Duffy, K3LR, 44 Elliott Rd., West Middlesex, PA. 16159
DX Advisory Committee, Tony Gargano, N2SS, 26 Winchester Drive, Sewell, NJ 08080
Public Service Advisory Committee, Bob Josuweit, WA3PZO, 3341 Sheffield Ave., Philadelphia, PA 19136

HOPE TO SEE YOU ALL THERE!

Looking ahead to the May ARRL night we are pleased to have both the Atlantic Division Director and Vice Director Hugh Turnbull and Kay Cragie join us for the meet the speaker dinner and the club meeting. The guest speaker will be Dave Newkirk WJ1Z from headquarters. Dave is a Senior Assistant Technical Editor at QST. Dave will give a in depth demonstration the new ARRL RF Design software called ARRL Radio Designer.

73, Gary Hitchner WA2OMY

SWAP SHOP

(send all ads to the editor)

FOR SALE: 1296 Power Amps, 250 watts to 750 watts, 2, 4, and 6 tube cavities using water cooled 7289, 8907 or single tube cavities using TH308, 328, 338 or water cooled Y730. Call or write to Tom Dinyovszky, KB2AH, 405 Union Lane, Brielle, NJ, 08730, 908-223-5067.

FOR FREE: 40 ft. Brand X Self Supporting Tower, free delivery. Contact John, KB3XG, at 610-584-2489.

FOR SALE: CGA and Hercules Video Monitor working fine, \$5.00 OBO. Commodore 64/1702 Monitor/ 1541 Disk Drive, \$50.00, OBO. Call Harry, W3IIT at 610-584-4846.

FOR SALE: Gel Cell Batteries, 12 volt, 57 Amp Hour. Removed from equipment, excellent condition, \$20.00 each. Contact: Bob, W3GXB at 610-346-8698.

TID BITS

Nominations for officers for 1995-96 are being taken. If you would like to assist in the guidance of the club or have suggestions on someone that would be willing to serve, contact Harry, W3IIT, at 610-584-4846 or Pat, WB3DNI, at 215-672-5289.

Ralph, WR3P, is looking for added assistance in conducting VE exams. Give Ralph a call at 215-745-9007.

Bruce, WA3YUE, and Becky will become parents in November. That's 3 new harmonics scheduled this year. Anyone else?

Phillip Rowsey, WD8BHO, in EN80LO is looking for skeds on 50 through 1296. Contact him at 614-387-7802.

The April issue of the Upper Midwest VHF/UHF Newsletter reports that the Badger Contesters achieved 1,765,432 points with 47 entries and the Northern Lights Radio Society achieved 2,345,678 points with 73 logs.

HEALTH and WELFARE

Dave, N3CX, is back home after a short stay in the hospital. Give him a call.

Deac, W3AJF, is still in the hospital and is getting better.

Dick, N3AOG, is sporting new choppers as of April 13. See if he sounds any better.

UPCOMING PROGRAMS

By: Gary, WA2OMY

May: ARRL Night, David Newkirk, WJ1Z on the ARRL Radio Designer including a demo

June, Election of New Officers

July, White Elephant Sale at Gary's (WA2OMY) Gulch

NEW FCC SERVICE

de: W1AW

The FCC has instituted a toll-free phone line at its Gettysburg, Pennsylvania licensing division for customer service inquiries. Amateurs may call 800-322-1117 weekdays between 8 AM and 4:30 PM Eastern Time to access an automated information system with recorded messages on interference complaints, form requests, records, and Amateur Radio call sign assignments. Other messages regard fee information and processing times. A Touch Tone telephone is required. The FCC said the new service was part of its response to a presidential order that the federal government be "customer driven." The FCC said it used a series of focus groups with external customers to identify the desire for an 800 number at its licensing division. "Within the next 18 months," the FCC said, "customer service standards will be developed for other areas of Commission operations to ensure that FCC customers receive the highest quality of service possible. As these new standards become available, the FCC will inform its customers

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Cheesebits subscriptions are available to everyone interested in activities and information from the VHF through the microwave frequencies. Subscriptions are for 1 year of 12 issues. For a subscription, send the following information:

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May 1995

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Pennsauken, NJ 08110

10 GHz TRANSVERTER, "All the Boring Details", 10 GHz BAND PASS FILTERS

de: John, KB3XG & Dick, N3AOG

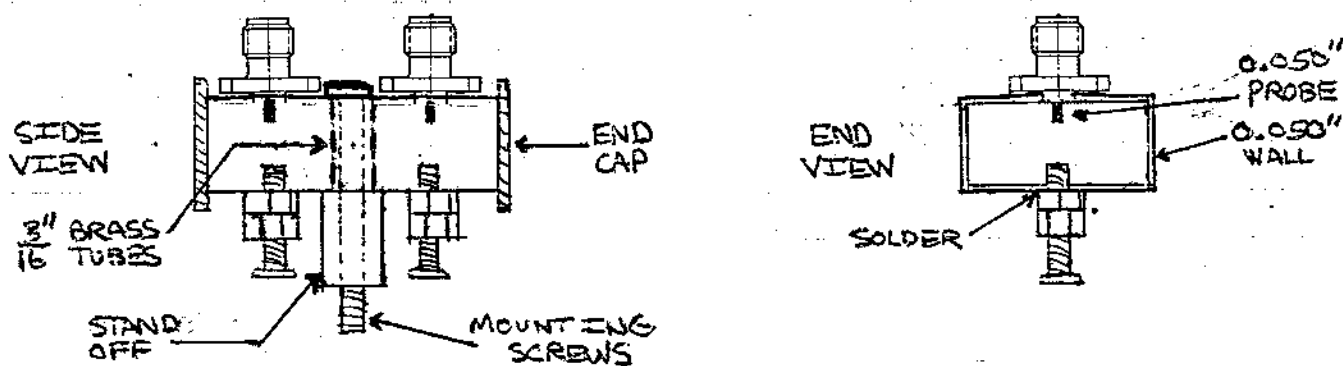
Last month I discussed 10 GHz system design and how to get the QualComm receive amp up and running. I forgot to mention what was involved in tuning up the "AOG" band pass filters referenced in my block diagram.

N3AOG BAND PASS FILTERS:

A great band pass filter design is key to good system performance if you are using a 144 MHz IF frequency. Our own N3AOG has adapted a filter based on the TNT Transverter article. It's a simple design that uses a short piece of WG-90 waveguide, 2 brass tubes, 2 #4-40 screws, and 2 SMA connectors. Dick has changed the design slightly by adding end caps.

MECHANICAL:

Cut a 1.500" piece of WG-90 and drill holes as shown in the diagram. Dick holds all dimensions to ± 1 mil (0.001") A Bridgeport milling machine makes this job easy, but a good dial caliper and file will probably work OK. Dick is not certain how the performance will degrade with sloppy tolerances. The original article used 3/16" brass rod. Dick uses 3/16" brass tubing. Of course there is no difference electrically, but the tubing allows you to run a 4-40 screw through the center as a method of mounting the filter to your chassis.



ASSEMBLY:

Use a SMA connector with a solid captivated center conductor. (CDI 5921 or equivalent). Cut the teflon with a razor blade so it is flush with the inside surface of the waveguide (Waveguide wall is about 0.050" thick). Start out with a probe length about 1/16" long (0.062"). [NOTE: The length of teflon = 0.050", the length of the probe = 0.062", total length - SMA flange to the end of the probe = 0.112".] The original article talked about using 4 tapped 2-56 holes for the SMA, and warned not to allow the threads to extend into the interior of the waveguide. I soldered the flange of the SMA connector to the waveguide. This doesn't mean blobbing a little solder in the flange holes. At 10 GHz, it doesn't take much to unknowingly create a significant ground discontinuity. Make sure you clean the area of the waveguide where the probe will be installed. Use flux, and pre-tin the waveguide and SMA flange.

Tap the hole for the brass tuning screw on the opposite side of the waveguide. The waveguide wall is only 0.050" thick and excessive tuning will strip the threads. (I usually tweek a tuning point until I break it). To avoid this inevitable problem, I installed a stainless screw and a solder tinned #4-40 brass nut into the tapped holes and soldered the nut to the waveguide. This adds 4 or 5 more threads and many more hours of tuning pleasure. You may have to run a tap through the hole when you're through to remove any solder. De-flux the filter using alcohol or acetone.

Since the SMA connectors and the tuning screws are opposing each other, use 2 C-clamps to secure both connectors and screws and solder everything in one step.

Install the 4-40 brass tuning screws, a 2nd 4-40 nut and lock washer to jam the threads of the screw against the nut. The Q of the filter is so high a 1/4 turn of the tuning screw can change the loss by a dB or so. Dick suggested (after I completed my filters) using a 0-80 or 2-56 tuning screw to increase the pitch and make fine tuning possible.

Cut 2 pieces of G-10 PC board slightly larger than the cross section of WG-90. (1.200" X 0.700") This is where Dick deviated from the original paper. The filter could not be tuned even with AOG's fancy HP test equipment with the ends of the waveguide open. Dick discovered, by scientific and other means, that the loss was greatly reduced by capping the ends of the waveguide. Clean the PC board end caps with steel wool and make sure that the end of the waveguide is flat and shiny to get the best possible RF seal between the waveguide and caps during the tuning process.

TUNING:

A "C" clamp was used to secure the pieces of PC board to the ends of the waveguide. I used my transverter building blocks (10 GHz brick oscillator, mixer, directional coupler, and HP-608) as a 10 GHz frequency source and my HP8551 spectrum analyzer to monitor my tuning progress. (A power meter will also work but will have less dynamic range.) Tune both screws alternately for minimum loss or best return loss.

Initial results were very poor. (Greater than 10 dB thru loss and no measurable return loss.) Use a file to remove a few mils at a time from the SMA probe. Be careful not to damage the 3/16" tubing with the file. This step takes time and is super critical to the overall performance of the filter. Each time some metal is removed from the SMA connector you must de-burr the probe, thoroughly clean the inside of the waveguide, and firmly secure the PC board end caps with the C-clamp. Repeat this process until achieving a 2 or 3 dB through loss. I stopped at 3 dB thru loss and -13 dB return loss. I was warned (de: WA3NUF, N3AOG, WA3AXV) that the last swipe of the file to get that last tenth dB may take you beyond the point of no return.

Once you are happy with the performance, solder the PC board end caps to the waveguide. I got slightly less loss with the plates soldered in place. Dick used 1/16" brass plates for a sexy looking cube package. Make sure that whatever you decide to use will not flex under any conditions. Flexing may alter the volume of the filter beyond the adjustment limits of the tuning screws.

PERFORMANCE:

A 3 dB bandwidth of 50 MHz at 10 GHz is attainable. I measured a little less than 3 dB loss with a -13 dB return loss at center frequency. The steepness in the skirts of the filter depend on the effort in tuning. You should be able to get 27 dB of loss at the LO frequency and with careful tuning as much as 40 dB. Dick swept the filter from DC to 12.4 GHz and did not see any re-injection bumps. Since this is a waveguide structure, I would assume that there will be no re-injection (Unlike the pipe cap filters.) at the second harmonic or higher. I tweaked the tuning screws after installing the filters in my system to get an additional 0.5 dB less loss. Either my test setup was not exactly 50 Ohms or the components in my transverter were something other than 50 Ohms. Make sure you install the filters in the chassis so the tuning screws are accessible.

Next month I'll continue with my discussion on the 10 GHz 1 Watt QualComm PA boards.

REFERENCES:

TNT for 10 GHz (Tuesday Night Transverter) Kirk Bailey, N7CCB, Robert Larkin, W7PUA, Gary Oliver, WA7SHI

Amateurs get 219 MHz

ARRL Bulletin 25 , March 17

The FCC has released a Report and Order in ET Docket No. 93-40, allocating the 219 to 220 MHz band on a secondary basis to the Amateur Service for point-to-point fixed digital message forwarding systems. The allocation had been requested by the ARRL as partial compensation for the loss of the 220 to 222 MHz band. When the new rules take effect, on a date that has not yet been announced, Technician and higher class amateur licensees will be permitted to use digital emissions of up to 100 kHz bandwidth and no more than 50 watts PEP output. The primary occupant of the band is the Automated Maritime Telecommunications Systems (AMTS). To protect the primary occupant, the ARRL has been designated as the national contact point for all amateur operations in the 219 to 220 MHz band and is responsible for maintaining a database of all amateur operations in the band. All amateur stations must notify the ARRL at least 30 days prior to initiation of operations in the 219 to 220 MHz band. Amateur stations within 50 miles of an AMTS coast station must obtain the written approval of the AMTS licensee prior to operating. Amateur stations within 398 miles of an AMTS coast station must notify the AMTS licensee in writing at least 30 days prior to initiation of operations. The ARRL will assist amateurs in fulfilling these requirements. Amateur stations operating in the 219 to 220 MHz band are not permitted to interfere with, nor are they protected from interference by, primary service operations in and adjacent to the band. The FCC action climaxes almost six years of effort by the ARRL. For additional background see May 1993 QST, page 9. Full details will appear in May 1995 QST.

19th ANNUAL MID ATLANTIC VHF CONFERENCE - CALL FOR PAPERS

The Mid Atlantic States VHF Conference will again be held at the Horsham Days Inn in Horsham, Pa., just north of Philadelphia. This year's conference will be held on Saturday, September 30, 1995. Sponsored by the Mt. Airy VHF Radio Club, the conference continues to present a wide variety of technical papers covering all aspects of 50 MHz through light frequencies. Talks on operating, propagation, construction and theory are among those requested. Speakers are encouraged to contact the conference chairman early.

Contact: John Sorter, KB3XG, Conference Chairman
1214 N. Trooper Road
Norristown, PA 19403
610-999-7658

NTIA releases report Spectrum Reallocation Final Report

ARRL Bulletin 24 from ARRL Headquarters March 17, 1995

The NTIA has released its Spectrum Reallocation Final Report as required by the 1993 Omnibus Budget Reconciliation Act (OBRA). The OBRA sought to make spectrum presently allocated to the federal government available for nongovernment use. In its preliminary report, the NTIA had proposed to make 2390 to 2400 and 2402 to 2417 MHz immediately available with 2300 to 2310 MHz to be available in 1996. These bands are allocated to the amateur service on a secondary basis. The ARRL and other amateur interests objected to any reallocation that would diminish the usefulness of these bands to amateurs. The principal users of 2400 to 2450 MHz are industrial, scientific, and medical (ISM) devices such as microwave ovens, the amateur service, and nonlicensed devices operating under FCC Part 15 rules. Based on the public comments, the NTIA has concluded that subdividing 2400 to 2450 MHz into three parts, as originally proposed, would not best meet the needs of the principal users of the band. The NTIA Final Report says, "Reallocating the entire 2400-2450 MHz band would provide the FCC with the opportunity to develop a long-term regulatory framework and strategy that meets the needs of the amateur service and addresses the requirements of a robust and growing Part 15 industry." The action, according to the NTIA, "creates a sense of stability regarding future non-Federal use and provides the opportunity to have a significant amount of spectrum for long-term development of non-licensed technologies." As reported earlier, in a parallel proceeding, ET Docket 94-32, the FCC decided to make 2390 to 2400 MHz available for Part 15 use in addition to the existing Part 15 band of 2400 to 2483.5 MHz. The FCC has identified no additional services to be introduced into the 2390 to 2450 MHz band, and none are recommended in the NTIA report. The relative status of the amateur services and the nonlicensed Part 15 devices is the subject of a further FCC notice of proposed rulemaking in Docket 94-32. The NTIA has accelerated the schedule for making 2300 to 2310 MHz available for additional non-Federal use, to August 1995, but with airborne and Space-to-Earth links prohibited and commercial applications limited to less than 1 watt of power. Continuing amateur requirements for 2300 to 2310 MHz are detailed in the NTIA report. The FCC has as yet made no determination regarding possible new uses for the 2300 to 2310 MHz band. The complete text of the NTIA Spectrum Reallocation Final Report is available by connecting through the Internet to <http://gopher.ntia.doc.gov> or to <http://www.ntia.doc.gov>. More information will be in May QST.

"E" Layer Phenomena

I attended a lecture at Fermilab which was conducted by Dr. Walter A. Lyons of Forensic Meteorology Associates from Ft. Collins, CO. His lecture brought to mind the sporadic "E" layer events Amateur Radio Operators experience occasionally. While little is known about the cause of "E" layer events, I speculate the subject of his lecture may affect the "E" layer. His presentation was about a phenomenon termed "Sprites", which are huge bursts of energy exiting the top of large thunderstorms. Some of these bursts of energy have been estimated to reach 100 KM above the storm. He presented video and electronic measurements to verify these events. The first known recording of a "Sprite" event was made by chance at the University of Minnesota 1989 while testing a image-intensified video camera. Dr. Lyons indicated this field of research is wide open because very little is known about "Sprites". Each time the scientists gear up for a particular set of "Sprite" measurements, they uncover something else previously un-noticed. He inferred that these events could have world-wide effects, not just in the area of the thunderstorm. I would suggest if you get the chance to attend one of his lectures, do so. It is very fascinating. Perhaps someone who is researching "E" layer dynamics can make a positive connection between "Sprites" and "E" layer phenomenon.

Dr. Lyons & "E" Layer Phenomena*

By Dave, N5JHV via the Internet

Lyons also had an excellent article in the January 1995 issue of "DISCOVER" magazine. "In 1993, Lyons set up a video camera 12 miles northeast of Fort Collins on Yucca Ridge where he could get an unobstructed view hundreds of miles east over the Great Plains. That summer his camera captured more than 600 optical flashes; last summer he captured hundreds more. They come in colors such as orange and salmon, and they extend as far as 50 miles above cloud tops and a dozen or so miles across. A Department of Energy satellite named ALEXIS went into orbit in 1993 to detect the bursts of radio waves released during nuclear explosions; it has registered more than 100 flashes coming from Earth's atmosphere that have no identifiable man-made source. Normal lightning releases radio waves, but these flashes are 10,000 times more powerful. But how the gamma rays or any of the other weird flashes are produced is still anyone's guess. The only clue is that they all seem to come from the vicinity of thunderstorms. 'All we know for now' says Lyons 'is that the more we look above thunderstorms, the weirder it gets' "We veteran "E's" watchers" have long noticed the correlation of summer E-skip with thunderstorm activity near the origination points of E clouds. Lets pay even closer attention this summer

*See January 1995 Cheesebits for a NASA News Release on Gamma Ray Flashes in the atmosphere.

50MHz Beacon Listing

updated 17/4/95*

<u>FREQ</u>	<u>CALL</u>	<u>GRID</u>	<u>POWER</u>	<u>ANTENNA</u>
50.000	GB3BUX	IO93	15	TURNSTILE
50.003	BV2FG	PL05	3	5/8 VERTICAL (QRT SUNDAYS)
50.003	7Q7SIX	KH74	5	
50.004	PJ2SIX	FK52	22	2 D/POLE
50.004	VE8KM	DP79		
50.005	VK9RNI	RG30	25	
50.005	ZS2SIX	KF25	25	
50.007	SR5SIX	KO02	10	
50.008	DX1HB	PK04	20	THIS BCN IS QRV!!
50.008	K0GUV	EN26	18	HALO
50.008	VE8SIX	DP79	80	COLINEAR
50.008	XE2HWB	DL44	1	
50.010	VE7SIX	DN09	130	QUAD
50.010	SV9SIX	KM25	30	VERTICAL
50.010	JA2IGY	PM84	10	5/8 G/PLANE
50.011	VP2EA	FK88	50	ANGUILLA
50.013	CU3URA	HM68	5	VERTICAL
50.013	JD1ADP	QL17	1	D/POLE
50.014	S55ZRS	JN76	10	G/PLANE
50.014	9M6SMC	OJ85	5	G/PLANE
50.015	PJ4B	FK52	15	5/8 G/PLANE
50.0155	LU9EHF	FF95	15	NV/V NEW: NEW: NEW: NEW: NEW:
50.017	JA6YBR	PM51	50	TURNSTILE
50.018	V51VHF	JG87	50	1/2 G/P QRT AT PRESENT (V51KC QRV)
50.019	P29BPL	QI30	25	1/4 GP
50.019	CX1CCC	GF15	5	
50.020	GB3SIX	IO73	25	3 EL @ 58m
50.021	OZ7IGY	JO55	30	TURNSTILE
50.0215	FR5SIX	LG78	2	HALO
50.023	4N0SIX	KN04	1	
50.023	LX0SIX	JN39	5	DIPOLE
50.023	SR5SIX	KO02	5	
50.0245	ZP5AA	GG14	5	G PLANE
50.025	OH1SIX	KP11	5	X/DIPOLES
50.025	YV4AB	FK50	15	RINGO
50.0255	9H1SIX	JM75	7	5/8 G/PLANE
50.027	ZS6PW	KG44	30	TEMP QRT
50.027	JA7ZMA	QM07	10	2-TURNSTILE
50.028	SR6SIX	JO81	10	DIPOLE
50.028	XE2UZL	DM10	25	2 SQ/LOOPS
50.030	CT0WW	IN61	40	DIPOLE 700M
50.032	JR0YEE	PM97	2	LOOP
50.0325	ZD8VHF	II22	40	5/8 JVL
50.0335	LU8YYO	FF50	1.5	1/2 VERTICAL
50.035	V31SMC	EK57	10	VERTICAL (LEFT UK MARCH 95) NEW: NEW:
50.035	ZB2VHF	IM76	30	5 EL
50.037	ES0SIX	KO18	15	X/DIPOLES
50.037	JR6YAG	PL36	8	5/8 GP
50.038	FP5EK			PLANNED 1995

*There are other beacons qrv not listed here because they are privatenon 24 hours ones, please advise me of any info left out: Any additions/changes then please Email me at: equinox@business.co.uk THE MOST COMPREHENSIVE 50MHz BEACON LIST EVER Compiled By GJ4ICD withthanks to: G0JHC, K1TOL, JA1VOK, JF6DEA, ZS6PW, SM7AED, G3UBX, G3USF, K6FV, W3EP and others. If you need a 50MHz beacon and are willing to maintain and look after it, then I will be pleased to supply one free of charge: Get ready for cycle 23! Please help fill in the holes, ie: antennas, power levels etc. HOME PAGE Any additions/changes then please Email me at: equinox@business.co.uk updated 17/4/95

The Packrats wish to Announce Ladies Night 1995



You are cordially invited to a night of food, music and dancing to thank our wives or girl friends for letting us participate in club activities during the year. We are returning to the Mill Race Inn in Holland, Pa. for this years event. We will be starting at 6:00pm and music and dancing will continue till 11:00pm. There will be a cocktail hour with hot hors d'oeuvres served. There will be a short awards presentation after dinner with music and dancing till 11pm.

When : May 13, 1995

Where : Mill Race Inn
183 Buck Rd.
Holland, Pa.

Agenda : 6:00 - 7:00	Open Bar
7:00 - 9:00	Dinner
9:00 - 9:30	Awards
9:30 - 11:00	Music and Dancing

Menu : Salad
Main Entree with Vegetables
Chicken Cordon Blu
Stuffed Flounder
Prime Rib
Desert
Coffee or Tea

Cost : \$20.00 per Person CASH BAR



R.S.V.P. By May 3, 1995



I / We Will attend Ladies Night 1995

Name(s) and Call _____

Address _____

Menu : Prime Rib _____

Choices Stuffed Flounder _____

Chicken Cordon Blu _____

Cost \$20.00 per Person
Make checks Payable to :

Mt. Airy V.H.F. Radio Club

R.S.V.P. By May 3, 1995

Mail To: Bruce Loss
2387 Norrington Drive
Jeffersonville, Pa. 19403
Phone (610) 630-1875

50MHz Beacon Listing

updated 17/4/95*

<u>FREQ</u>	<u>CALL</u>	<u>GRID</u>	<u>POWER</u>	<u>ANTENNA</u>
50.039	FY7THF	GJ35	100	G/PLANE
50.040	CX8BE	GF15	8	BEAM QRV?
50.040	SV1SIX	KM17	25	VERTICAL
50.040	VO1ZA	GN37	10	
50.042	GB3MCB	IO70	40	1/2 DIPOLE
50.043	ZL3MHF	RE66	20	VERTICAL
50.045	OX3VHF	GP60	15	G/PLANE
50.045	YV5ZZ	FK60	10	VERTICAL
50.046	VK8RAS	PG66	15	X/DIPOLE
50.047	JW7SIX	JQ88	10	4 EI/YAGI ****NOW ON AIR****7/4/95
50.0472	N1SIX	KN04	10	VERTICAL
50.050	ZS6DN	KG44	1000	5EL
50.050	GB3NHQ	IO91	15	TURNSTILE
50.051	LA7SIX	JP99	20	4 EL BEAMING
50.052	Z21SIX	KH52	8	1/4 G/PLANE
50.0535	VK3SIX	QF02	10	9 EL
50.054	OZ6VHF	JO57	25	TURNSTILE
50.0555	V44K	FK87	3	D/POLE
50.0567	VK7RNW	QE38	20	X/DIPOLES
50.057	TF3SIX	HP94	8	GROUND PLANE
50.057	VK8VF	PH57	20	1/4 VERTICAL
50.058	VK4RGG	QG62	6	
50.059	VE3UBL/B	FN03	10	TURNSTILE
50.060	PY2AA	GG66	10	TEMP OFF AIR
50.060	K4TQR	EM63	4	D/POLE
50.060	WA8ONQ	EM79	2	X/DIPOLE
50.060	W5VAS	EM40	25	QUAD
50.060	GB3RMK	IO77	40	DIPOLE @ 240M
50.061	KH6HME/B	BK29	20	DIPOLE
50.061	WB0RMO	EN10	50	SQUALO
50.062	PY2AA	GG66	25	G PLANE
50.062	GB3NGI	IO65	25	DIPOLE @ 240M
50.063	W3VD	FM19	10	SQUALO
50.064	WD7Z	DM75	75	SQ/O
50.064	KH6HI/B	BL01	60	TURNSTILE
50.064	GB3LER	IP90	45	DIPOLE
50.065	W0IJR	DM79	20	2 RING HALO
50.0655	GB3IOJ	IN89	10	VERTICAL
50.066	WA1OJB	FN54	10	J POL
50.066	VK6RPH	OF78		QRT AT PRESENT
50.067	KD4LP	EM86	75	G/PLANE
50.067	OH9SIX	KP36	35	TURNSTILE
50.069	K6FV	CM87	100	
50.070	N4LTA	EM94	10	1/2 HALO
50.070	W2CAP/b	FN41	15	V/DIPOLE
50.070	EA3VHF	JN01	0.25	VERTICAL
50.070	SK3SIX	JP71	10	X/DIPOLES NEW:NEW:NEW:NEW:NEW:
50.070	ZS1SES			NEW BCN
50.071	W0VD	EM27	10	G/PLANE
50.072	KS2T	FM29	10	G/PLANE
50.073	WB4WTC	FM06	10	2LO
50.073	ES6SIX	KO37	10	G/PLANE
50.073	VE1MQ	FN65	2	D/POLE
50.075	JY6ZZ	KM71	8	5/8 VERTICAL(not qrv yet!)
50.075	NL7XM/2	FN20		
50.075	PY2AMI	GG67	5	G PLANE
50.075	EA8SIX	IL29	10	??

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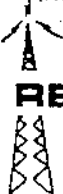
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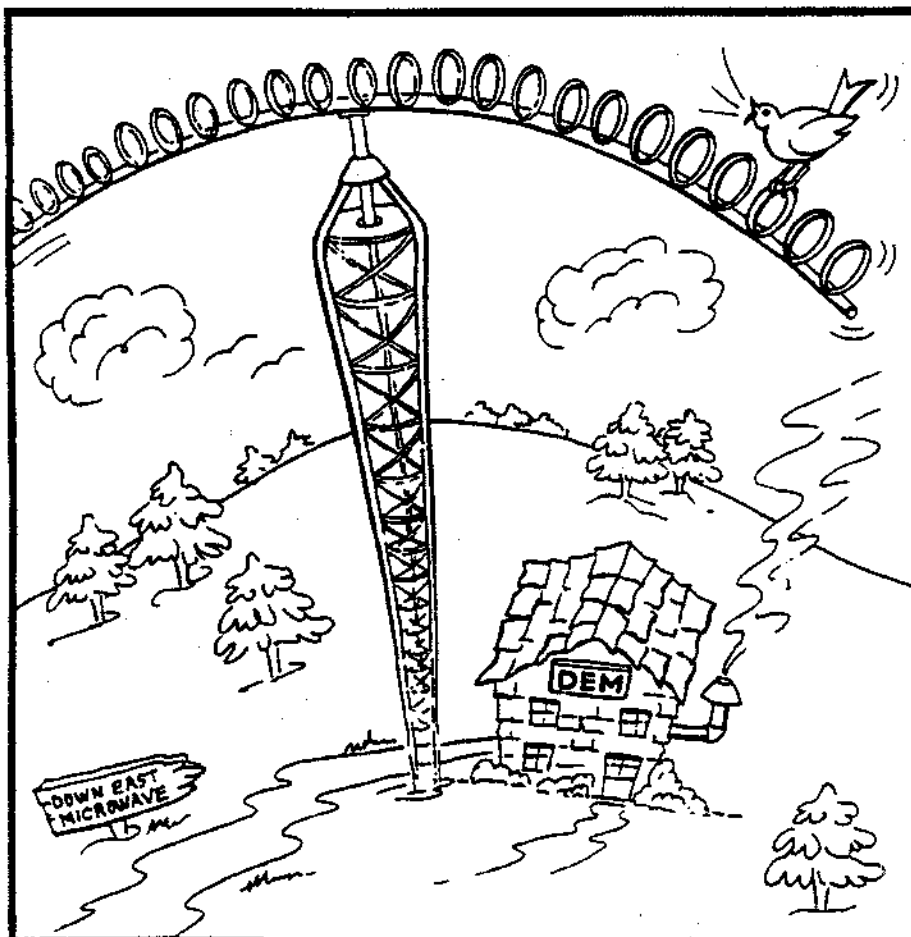


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