

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. W3CCX
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 ARNS

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

VOLUME XXXVII

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Number 10

THE PREZ SEZ

Incredible as it always seems, the mountain of work required to prepare for the Conference and Hamarama somehow gets accomplished. John, KB3XG, and Paul, WB3JYO, have done an outstanding job as chairmen of the weekend event and deserve the highest praise and thanks from all of us in the club. This is definitely a team effort and the list of thanks for everyone who worked on the various tasks from editing the PACKRAT NOTES publication to helping park cars on Sunday includes the majority of active club members and is too long to document here. Thank you all for making it another terrific Packrat weekend.

At the September regular club meeting Ron, WA3AXV, gave us the lowdown on those high up GPS satellites. Ron has been involved in GPS from a government usage perspective for quite a few years now and his description of what it can and can't do had everyone entertained. In keeping with our non-terrestrial focus our next meeting will feature Rick Phillips, KB3PD, who will show us the ins and outs of setting up a practical EME station.

Now that the weather has cooled down it's time to take a good look at your antenna farm and make those long overdue repairs and improvements. January contest season is just around the corner.

73, Phil, WA3NUF

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PACKRAT 222 MHz REPEATER - W3CCX/RPTR

222.98/224.58 MHz, Churchville, PA

OFFICERS: 1993-1994


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	WB3KRW,	Steve Dallas (2 YR)

MONDAY NIGHT NETS

<u>TIME</u>	<u>FREQ.</u>	<u>NET CONTROL</u>
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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Calendar of Coming Events - October 1995

- 1 **Hamarama 95** will be held at the Bucks County Drive-In on Rte. 611, In Warrington, Pa.
- 1 **The Hall of Science ARC Hamfest** will be held at the New York Hall of Science parking lot, Flushing Meadow Park in Queens, NY. Talk-in on 146.52.
- 4 **Yom Kippur**
- 7-9 **ARRL International EME Competition**. See Sept. QST page 124.
- 8 Garden State ARA/Neptune ARA/Monmouth-Ocean State ARC **Jersey Shore ARC Hamfest** will be held in Middletown Township, NJ at Garden State Tpk exit 109 to the hamfest at Brookdale College. TI on 145.110.
- 12 Columbus Day
- 12 **Board of directors meeting** for the Mt. Airy VHF Radio Club will be held at the QTH of Brian, N3EXA at 8:00 PM. All interested parties welcome. Call 215-257-6303 for directions.
- 14-15 **Pennsylvania QSO Party**. See September QSR page 126 for rules.
- 15 **Columbia ARA Hamfest** at the Howard County Fairgrounds in W. Friendship, MD. TI on 147.735/135. VE Session.
- 19 **Regular meeting** of the Mt. Airy VHF Radio Club at the Southampton Free Library on Street Rd. in Southampton, Pa. Rick Phillips, KB3PD will present a program on "Practical EME". All VHFers are encouraged to come and enjoy the evening with us. You need not be a member to attend.
- 21-23 **Simulated Emergency Test (SET)**. See Sept QST, page 126.
- 22 Predicted peak of the **Orionids meteor shower** at 1241 UTC.
- 22 **RF Hill ARA Hamfest** at the Armory in Sellersville, Pa. VE exams will be held. TI on 144.710/145.310, 134.28/88, and .52.
- 26-28 **Microwave Update 95** will be held at the La Quinta Inn in Arlington Texas. For more information contact Al Ward, WB5LUA, 2306 Forrest Grove Estates Road, Allen TX 75002 or Kent Britain, WA5VJB, at 1626 Vinyard, Grand Prarie, TX, 75052-1405..
- 28-29 **CQ World-Wide DX Contest**. See Oct. QST, page 127 for rules or CQ magazine.
- 29 **Penn Wireless Association Tradefest-95** at the Bucks County Community Collegenorth of Newtown, Pa on Swamp Road. VE exams will be held. Talk-in on 145.52 or 146.25/(-600).
- 31 **Halloween**

SKY & TELESCOPE NEWS BULLETIN SEPTEMBER 2, 1995 A NEW SOLAR CYCLE?

de: VE7HCE de VE7CQD 6-Sep 0602Z 73/66 From A.R.S. VE7HCE Glen Tate on the VHF Reflector

Observations suggest that a new solar cycle, number 23, has begun, even though the turnaround at solar minimum was not expected until sometime next year. Caltech's Big Bear Observatory reports two active regions on the Sun with the magnetic polarity expected for the new cycle. In some ways an accelerated schedule might have been foreseen. According to solar expert Cary Oler, cycle 22 took only 34 months to rise from minimum to maximum, so an early minimum thereafter would not be a huge surprise. Oler says we might now expect the next solar maximum to occur in late 1998 or early 1999, rather sometime in the year 2000 Caltech Observatory Sees Start of New Solar Sunspot Cycle

(contd on page 4)

(New Solar Cycle? contd)

PASADENA-The first sunspot in the new sunspot cycle was identified on Saturday, August 12, by astronomers at the California Institute of Technology's Big Bear Solar Observatory in Big Bear City, California. The new sunspot marks the end of the sun's quiescent period and the beginning of a new surge of sunspot activity.

There is typically some overlap between successive sunspot cycles. As the last sunspots of one cycle appear near the equator, at latitudes of about 7 degrees, the next cycle starts again with sunspots near 30 degrees, but with the magnetic polarity of the new spots reversed.

That's exactly the point the sun is at now; it has been in a quiescent period through much of 1994 and this year, with a few spots showing up near the equator. The new sunspot photographed on Saturday appeared at a solar latitude of 21 degrees, and its magnetic polarity is opposite to that seen over the last decade, a key to identifying it as the manifestation of the start of a new cycle.

This new sunspot appeared a bit earlier than astronomers expected. Typically, as a solar cycle winds down, late bursts of sunspot activity will appear near the equator before the new cycle starts. Scientists had seen these late pulses of sunspots in 1984, but saw little late activity this time and therefore expected an early beginning to the new cycle, but not this early.

Special Bulletin 50 ARLX050 Sky Search gets name

From ARRL Headquarters Newington CT September 12, 1995

A name and starting date have been chosen for a radio astronomy project that aims to involve large numbers of radio amateurs.

The SETI League has chosen "Project Argus" as the name for its upcoming search for extraterrestrial intelligence (SETI). The SETI League hopes eventually to involve 5000 amateurs worldwide in scanning the sky. Earth Day, April 21, 1996, is the target date for beginning the project.

The name Argus was chosen in 1971 at Stanford University for a proposed ultimate SETI receiver that was never funded. Argus was a mythological figure with 100 eyes that could look in all directions at once.

Dr Robert Dixon, W8ERD, a SETI League advisor and assistant director of the Ohio State University Radio Observatory, hopes to share technology with the SETI League, according to SETI League Executive Director Paul Shuch, N6TX.

More information on amateurs' role in radio astronomy was in August 1995 QST, page 37.

Awards Sponsored for 222 in Nov. EME TEST

The HUDSON WATERSHED VHF SOCIETY will sponsor an award for the highest score on 222 MHz in the 1995 November ARRL VHF EME Contest. This award will be based upon the PUBLISHED score in QST, when the results come out. The award will be a "VERY SPIFFY!" plaque from the HWVHFS, which will be shipped directly to the callbook address of the station so listed in QST. NO NEED TO MAIL AN ENTRY TO US. There is NO CHARGE for this award. A SECOND PLAQUE will be awarded to the station who submits a copy of their log sheet, indicating the earliest 222 EME contact in the contest period (show time, date, callsign worked, mode, sig report, and add a little description of your gear, please!)

There is NO CHARGE for this award. You *MUST* ,however, MAIL AN ENTRY to be eligible for the first 222 EME QSO of the contest award. Entries will close 30 days after the contest, and should be mailed to: HWVHFS Attn.: Joe Bruno 45 Munson Rd, Pleasantville, NY, 10570 - USAE-mail entries can be sent to Joe.Bruno@execnet.com INQUIRIES SHOULD BE DIRECTED TO: Tom Richmond, VE3IEY (ex-WB2IEY) via e-mail: TantonR@aol.com Or snail-mail to: 829 Norwest Road, #903, Kingston, Ontario K7P 2N3 CANADA. The decisions of the HWVHFS awards committee will be final. MANY THANKS TO KB6IGC for the inspiration for this awards program.

For a current listing (via e-mail) of stations who are EME capable on 222 EME, send a polite request to him at evans@nmc8.chinalake.navy.mil The Hudson Watershed VHF Society, founded in 1991, is a small group of experimenters centered around the lower Hudson Valley of New York State. Their group efforts include work on all bands through laser, with a particular emphasis on 6,2,220, 432, 1296 and 5760 in all sorts of strange places around the region- FN22, FN21, FN31 and FN30. They placed first in the Local club competition of the 1993 January VHF SS, and had the highest score in the 1995 VHF SS Local competition as well. They are an ARRL affiliated club. CQ DX es 220 4 F R! de VE3IEY -----

JANUARY CONTEST - RECLAIMING THE GAVEL

By: Al Shepard, N3ITT, Chairman, January Contest Committee

Hello again. I hope by now most of you have received and replied to your contest letter. If not, try to ASAP. To start, let me again thank everyone who came out last year. Considering the conditions, the club still managed to better our '94 score by almost 50K points despite having 7 less logs.

The question is - IS THIS THE YEAR THE PACKRATS RECLAIM THE UNLIMITED CLUB GAVEL? I believe it can be - Remember Rochester won by only 155 K points last year with 60 logs! Within the last year, the club has been lucky to take in several excellent new members, but we've had losses as well. Only with EVERYONE'S help will we be the UC champs again.

Now is the time to start planning our contest effort. Start checking out all of your equipment. Set aside stuff others could use and let me or your team captain know what you can do to help. Talk up the contest and the PACKRAT (non-member) Award.

Well, that's about it for "now". I hope to have a "help" list printed in November's Cheesebits, so look there and see what you need. OK - Lets get to work and put the PACKRATS back on the top again.

CONTEST NEWS RELEASE: New Scoring Rules for VHF Rovers Announced

September 12, 1995, For Further Information Contact: Billy Lunt, KR1R

FOR IMMEDIATE RELEASE

The ARRL Contest Advisory Committee (CAC) voted 11 to 4 to recommend new scoring rules for Rovers in ARRL VHF/UHF contests. The CAC considered the results of a recent poll of rovers and other VHF contest participants in preparing their recommendation. Objectives of the proposal include: simple to calculate, fair to all, progressive scoring over the course of the contest, and discourages grid circling.

The ARRL Awards Committee voted unanimously to accept the CAC recommendation which has been dubbed as U+A scoring.

The new scoring rules call for Rovers (only) to multiply total QSO points from all grids by the sum of unique band-grids worked and of activated grids. (A unique band-grid is a grid square worked on one band from any grid square; in other words, if you work EM00 on 50 MHz from one grid, you may not count EM00 on 50 MHz again for multiplier credit. Each grid worked counts only once per band, just as in the fixed-location categories.)

The new rules become effective with the January 1996 VHF Sweep Stakes. Rovers will continue to be included in the Club Aggregate Competition scores--as they have in the past.

The CAC and the Contest Desk have agreed to revisit the results of this rules change in two years. If experience indicates, further amendments will be considered at that time.

TID BITS

The Delaware Valley Chapter of the QCWA held their spring meeting on May 13, 1995 and presented a certificate for Packrat Horace Deacon, W3AJF for 70 years as a licenced ham. Deac was unable to attend because of illness. A certificate for 60 years was presented to Packrat Jack Powers, W2AXU.

CHEESEBITS SUBSCRIPTIONS

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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October 1995

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VHF+ PROPAGATION & ACTIVITY REPORT- AUGUST 1995

By Jerome Byrd, K3GNC

In the slightly altered words of the "BARD", September is the cruelest month of all. The September VHF Contest had some of the flattest conditions seen in many years. Participation was also DOWN. there were several PACKRATS on, making the best of it. Those who participated got an excellent chance to test their stations under "JANUARY" conditions.

The only good news was Maritime Mobile'er Clint Walker, N1KTM, is on 432 MHz with a ten element W1JR and 35 watts thanks to the generous contribution of Ron Klimas, WZ1V. He will put several water grids within easy reach of most PACKRATS.

<u>FREQ></u>	<u>DATE</u>	<u>ACTIVITY</u>
144 MHz	9/6/95	Brief Aurora, AA2UK, K2TXB worked N1GDP (FN55) and NA8G (EN83).
144/432 MHz	9/14/95	N1KTM/MM provided us with a special treat. He passed through the elusive FM35 giving the grid on 144 MHz and 432 MHz (to the lucky few). WZ1V, K2SMN, AA2UK, K3GNC...., worked him on FN35 on 144 MHz. AA2UK casually worked him in FN35 on 432 MHz SSB (FN35) while K2SMN, K3GNC, ... barely made the grade on CW.
10,368 MHz	9/16/95	Ron, WA3AXV (FN20) in Churchville, Pa., worked Zack, KH6CP/1 (FN44ig) on Mt. Washington, NH., a 549 km path. Ron previously worked Paul, N1BWT on 8/19/95 over the same path. Does anyone know how this compares with the existing overland record? Ron was running 0.6 watts into a 2 ft. dish
144 up	9/18/95	Decent East-West opening. WZ1V (FN31) worked out to EM66 which was the furthest I heard about. EM79, EN80 was heard/worked in our area.

Please let me know about any openings, nets, propagation, etc. CU on the Bands, Jerome.

SWAP SHOP

(send all ads to the editor)

FOR SALE:

N3CX Estate

HB 144 MHz DL6WU 10 element Yagi	\$ 45.00
HB 222MHz 18 element Yagi	\$ 45.00
HB 222 MHz DL6WU 12 element Yagi	\$ 45.00
HB 446 MHz DL6WU 13 element Yagi	\$ 45.00
HB/Surplus 903 MHz 60 watt SS Linear	\$100.00
Jones 636NC 600 watt 3 GHz Load	\$100.00
Kenwood TM-741A 2M/220/440 MHz FM	\$600.00
Kenwood TS-180S 100 W. HF XCVR	\$400.00
Kenwood TS-520S HF XCVR	\$350.00
Kenwood VFO-520 (520S VFO)	\$ 50.00
Yaesu FT-101ZD HF XCVR	\$400.00
Yaesu FV-101Z VFO	\$ 50.00

Contact Dave, WA3JUF at 215-795-2648 or dmascaro@gic.gi.com

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 SALE: Computer memory, 1 MB, 80 ns. 30 pin SIMMS \$25.00 each, 4 MB, 70 ns., 72 pin SIMS \$125.00 each, 1 GByte Fujitsu Disk, fast SCSI with Adaptec 1542CF controller, \$500.00. Three sets available. Contact Bruce, WA3YUE at 610-630-1875.

SOME SEPT '95 ARRL VHF CONTEST RUMOURED SCORES

de: Ron WZ1V

CALL	W2SZ/1	AA4S	K3YTL	W4IY	W0UC/9	K1WHS	WB0GGM	W1XX
GRID	FN32	FM07	FN11	FM08	EN44	FN43	EN34	FN31
CLASS	M/U	M/U	M/U	M/U	M/U	M/U	M/U	M/U
6	340/44	271/73	349/53	215/56	145/83	188/38	69/37	184/28
2	657/51	452/76	522/60	340/59	221/68	241/36	181/75	140/21
222	171/31	100/43	101/32	66/29	52/35	54/17	44/23	43/15
432	272/36	152/50	155/34	109/37	94/42	98/23	72/27	65/17
903	67/24	22/17	33/20	22/15	14/12	19/9	14/10	15/10
1296	94/25	29/17	55/2	23/13	28/17	28/12	33/13	20/12
2304	31/10	7/6	1/8		3/3	5/2	6/4	
3456	23/9	10/5	5/3			5/4		
5760	23/9	4/4	1/1					
10G	30/10	3/2		1/1		16/3	1/1	
24G	9/6					1/1		
TOTAL	1717/255	1050/293	1230/232	1044/210	557/260	655/145	420/190	67/103
Score	721,000	432,468	397,880	219,240	206,960	142,390	123,690	66,435
CALL	W2SZ/1	AA4S	K3YTL	W4IY	W0UC/9	K1WHS	WB0GGM	W1XX
CALL	K3MQH	WB2ODH	WB1GQR	AA2SP	N2AAM	W1QK	K9PW	WD8ISK
GRID	FN33	FN03	FN21	FN31	EN52	EM98	EN52	EM98
CLASS	M/L	M/L	M/L	M/L	M/L	M/L	S	S
6	277/54	162/47	198/27	157/44	180/29	163/23	102/44	127/56
2	703/67	335/45	476/34	298/50	221/36	262/29	307/72	191/61
222	127/43	142/39	121/24	78/30	58/22	66/22	75/39	68/38
432	259/52	157/45	191/28	131/38	63/20	76/21	147/54	99/47
903	10/8						27/18	28/21
1296	30/17						44/23	37/21
2304							5/5	10/9
3456							5/5	2/2
5760							5/5	
10G								3/3
TOTAL	1366/216	796/176	986/113	664/162	522/107	567/95	716/264	565/258
Score	378,432	192,720	146,700	141,426	68,801	67,355	296,208	234,006
CALL	K3MQH	WB2ODH	WB1GQR	AA2SP	N2AAM	W1QK	K9PW	WD8ISK
CALL	WA2TEO	K1RZ	KE8FD	AA2UK	WZ1V	WB2DNE	K2UOP/8	WR0G
GRID	FN31	FM19	EM89	FM29	FN31	FM19	FM09	EN31
CLASS	S	S	S	S	S	S	S	S
6	169/50	156/46	84/35	74/27	105/30	85/30	64/30	69/44
2	332/47	280/49	228/76	248/41	238/34	177/45	137/41	132/58
222	81/30	66/29	60/41	67/25	60/21	51/23	41/24	34/28
432	109/34	113/34	97/41	97/28	94/27	98/37	73/34	67/38
903	28/19	32/18	12/10	27/17	20/11	15/12	23/17	
1296	29/13	43/19	19/14	43/19	35/15	26/15	27/17	20/16
2304	4/4			9/5			5/5	
3456				1/1				
TOTAL	752/197	690/193	500/217	566/163	552/138	452/162	370/168	322/184
Score	210,396	196,600	156,023	146,700	112,608	110,646	100,632	85,192
CALL	WA2TEO	K1RZ	KE8FD	AA2UK	WZ1V	WB2DNE	K2UOP/8	WR0G
Rovers	Score	Totals	Activated	Bands				
AJ0E/R	17,458	388/310	13 GRIDS	ABCD9E				
KE9QT/R	14,194	239/178	5 GRIDS	?				
WB9SNR/R	13,206	162/129	4 GRIDS	ABCD9EFGHI				
N3KKM/R	7,665	218/136	5 GRIDS	ABCD				
WB9AJZ/R	4,542	254/95	7 GRIDS	AB D				
NIQVE/R	4,102	183/75	3?GRIDS	ABCD9EFGI				

-Some QRP scores			totals-	50	144	222	432	903	1296	2.3	3.4
KH6CP	FN33	100,000	??/??								
N2DSY	FN30	53,669	458/77	53/12	199/19	73/15	102/14	12/7	17/8		
N7SFT	DN32	2,130	59/30	13/7	34/14	4/3	8/6				
W9SZ	EN60	1,081	34/23		22/14		11/8		1/1		
More M/L		scores	totals	50	144	222	432				
KB1BOW	FN42	25,978	331/62	95/16	148/18	32/13	56/15				
KA1EKR	FN42	16,362	229/54	69/13	86/19	29/10	45/12				
KR8L	DN33	3,317	87/31	11/7	56/14	2/2	18/8				
More SingleOp		scores	total	50	144	222	432	903	1296	2.3	3.4
KD1DU	FN31	78,512	493/112	95/20	231/30	55/21	71/20	17/11	24/10		
K1TR	FN42	78,400	472/110	103/20	175/25	62/22	91/21	16/8	19/10	6/4	
W3ZZ	FM19	75,665	420/121								
W1GCI	FN42	73,944	409/117	84/22	157/29	55/21	62/19	20/11	27/13	4/2	
WB2VVV	FN21	65,900	392/103	68/20	168/22	52/20	58/19	20/11	26/11		
KA2RDO	FN12	60,000	306/130	55/22	129/38	35/21	54/24	16/12	15/11		10G=2/2
W2HPF	FN13	54,000									
KP4XS	EM84	49,000	260/140	66/34	117/47	22/17	42/30	6/5	7/7		
WA2BAH	FN32	38,000									
KD5RO	FN12	31,383	184/99	28/17	70/28	17/12	31/14	11/9	18/11	6/5	2/2+

-Congratulations all! Tnx to K3MQH and W2SZ/1 for compilation assistance.

VE3ONT 1995 : You Can Do It

By Mike Owen, W9IP

The Toronto VHF Society plans to use the 46-meter (150') dish at the Algonquin Radio Observatory (courtesy of the Institute for Space and Terrestrial Science, York University) during the 1995 A.R.R.L. International E.M.E. Competition. We will operate both weekends of the contest and plan to activate the 50, 144, 222, 432, and 1296 MHz bands during this time.

Recently, several people have inquired about the minimum station equipment required to make a QSO. Below are some estimates based on standard link-budget calculations.

The VE3ONT dish has the following approximate gain figures:

Table 1, VE3ONT Antenna Gain

Frequency MHz	Theoretical gain, dbi	Actual gain, dbic	Actual gain, dbil
50	25.0(l)	25.0(l)	25.0
144	34.2(c)	34.2	31.2
222	37.9(c)	37.5	34.5
432	43.7(c)	43.1	40.1
1296	53.3(c)	52.0	49.0

Interpreting Table 1: "Theoretical Gain" represents calculated gain based solely on dish diameter and operating frequency. "Actual Gain" represents our best estimate of how much gain VE3ONT really develops. For example, our 1296 MHz feed under-illuminates the dish by a few percent, resulting in approximately 1.3 dB reduction in gain. "dbic" indicates that the gain figures are relative to circularly polarized signals; except on 50 MHz, VE3ONT uses circular polarization. "dbil" represents gain relative to a linearly polarized antenna. To compute "dbil" from "dbic" we just subtracted 3 dB for circular/linear loss. If you are using an OSCAR-class circular-polarized antenna, you should refer to the "dbic" column whereas linearly-polarized antennas relate to the "dbil" column.

Table 2, Antenna Gain Required to Barely Hear VE3ONT

Frequency MHz	Antenna gain required	
	dbi	dbd
50	19	17
144	12	10
222	10	8
432	7	5
1296	15	13

Interpreting Table 2: These figures are based on VE3ONT transmitting full legal power on 50 - 432 MHz and 200 watts on 1296. They also assume that the receiving antenna is polarized similarly to VE3ONT's signal. Note that this means linear polarization on 50 MHz and RHCP on the other bands. If your receiving antenna is polarized differently (for example, if you use a linear-polarized antennas on 144 MHz) then you will need about 3 dB more gain for the same received signal. Lastly, Table 2 assumes a receiver noise figure of about 0.5 dB. If you have no low-noise preamplifier, or if your preamp is located in the shack rather than at the antenna, you will need more antenna gain to compensate for the increased noise figure.

Additional Notes

If you want to work VE3ONT via EME, you will also need to be loud enough at VE3ONT for us to hear you. If you can transmit the same power that VE3ONT is transmitting, then we ought to hear you about as well as you hear us. If you run less power, then you will need more antenna gain to make up for it. For example, if you transmit 150 watts on, say, 432 MHz instead of 1,500 watts, then you will need about 10 dB more antenna gain than Table 2 lists in order for VE3ONT to hear you.

Table 2 shows that the 432 MHz band is probably the most promising band for most people. The antenna gain required is reasonable and generating a moderate amount of transmit power is not too difficult. The 50 MHz band will be a significant challenge because of the large antennas and high power needed. However, "ground gain" may add up to 4-6 dB for a short period as the Moon nears your horizon.

Experience during the past 3 years has shown us that QRM, not signal strength, is often a limiting factor. We have recorded 20 stations calling within a 1.3 kHz bandwidth at one time. Obviously, weaker stations are difficult to copy even if they are strong enough to be detected. Consequently we recommend that all stations, especially weaker ones, spread out and call VE3ONT throughout the 10 kHz receive windows listed below (5 kHz on 50 MHz). We really do tune the full window. In fact, we tend to stay away from our own TX frequency because our own EME echoes are deafening.

Bottom Line

To work VE3ONT on 144, 222, or 432 MHz, you'll need about 100 watts, a long-boom yagi, and patience. The more that you have of any of these three components, the better your chances. We hope you make it!

Repeated below is the proposed operating schedule for VE3ONT in 1995. It is identical to the schedule posted on 8/24/95.

VE3ONT Algonquin Radio Observatory Operating Schedule 1995

<u>Band</u>	<u>Date</u> <u>(UTC)</u>	<u>Time</u> <u>(UTC)</u>	<u>VE3ONT TX</u> <u>frequency</u>	<u>VE3ONT RX</u> <u>freq. window</u>
144 MHz	Oct 6/7	0000-0910	144.100	144.100 - 144.110
50 &	Oct 7/8	2305-1020	50.100	50.100 - 50.105
1296 MHz			1296.050	1296.050- 1296.060
222 MHz	Oct 8/9	2335-1120(*)	222.010	222.010 - 222.020
432 MHz	Nov 3/4	0000-0805	432.050	432.050 - 432.060
144 MHz	Nov 4/5	2135-0910	144.100	144.100 - 144.110
144 MHz	Nov 5	2205-2400	144.100	144.100 - 144.110

(*) 222 MHz: Only 2335-2400 UTC QSOs count for the EME contest; VE3ONT will be active all night anyway

Notes:

1) VE3ONT will attempt to be on the air at moonrise prior to the start of both the October and November weekends. We encourage only those who have not yet worked an EME station to try working us at that time. Experienced EME operators, please wait until the start of the contest. Anyone who works VE3ONT before the contest is encouraged to work us again during the contest.

2) Please avoid multiple QSOs during the contest. They only detract from the opportunity of first-time EME stations. If you wish to work VE3ONT on SSB, wait until we switch; don't work us first on CW and then repeat on SSB, please. Also, please avoid duplicate 144 MHz QSOs between the two weekends.

3) The 50 MHz and 1296 MHz operation scheduled for October 7/8 will be simultaneous on both bands, barring unforeseen difficulties.

4) As always, VE3ONT's operation is subject to last-minute cancellation for commercial users of the site.

5) In order to maximize your chances of making a QSO, make use of the entire receive window. Our best weak-signal successes in previous years have been well away from our TX frequency. We tune the window constantly.

6) Times shown reflect the dish's 9 degree lower elevation limit, not actual moonrise at the site (grid FN05xw).

7) 50 MHz will use horizontal polarization. 144, 222, and 432 MHz will be RHCP on both TX & RX in order to minimize Faraday/spatial polarization effects. Your linearly polarized or circularly polarized OSCAR antenna will work fine. 1296 will be switchable RHCP/LHCP for both TX & RX; default is RHCP.

8) VE3ONT will transmit maximum legal power on 50, 144, 222, and 432 MHz. 1296 MHz power will be at least 150 watts.

9) We expect 222 MHz activity to be concentrated near horizon times. Be aware that we are limited to +9 degrees elevation lower limit. Therefore stations on the North American East Coast will have to elevate their antennas to work us on 222 MHz. We encourage very small stations to try because QRM will be minimal and we will be on the air all night even though this is after the contest.

10) All operation will be "random," that is, without prearranged skeds.

11) QSLs go to Dennis Mungham, VE3ASO, RR #3, Mountain, Ontario, Canada, K0E 1S0. Inquiries to Peter Shilton, VE3VD, 215 Windecker Rd. R.R #1, Cayuga, Ontario, Canada N0A 1E0 or call (905) 772-8938 (EDT/EST evenings).

"BB" Wentzel

By: W2SVV - Caesar Arena

"BB" Wentzel - W2HX - W2HotelXray - occasionally referred to as "Da - Di - Di - Dit". However, there was one phase in his life when he was respectfully referred to, and called "Mr." Wentzel. "Mr." Wentzel was one of the shop teachers who taught the Electrical Theory and Practice classes at the School of Industrial Arts, now Mercer County Community College. Years back, when I dared to dream that someday I might be a radio ham, I attended that school, where they taught both the Arts and Sciences and the application of that knowledge to earn a livelihood.

Architecture and the Arts classes were held in the main building, a classic structure of Mid-Victorian and Contemporary architecture. It still stands on the corner of West State Street and Willow Street in downtown Trenton. Our friend, "Mr. Wentzel", was the little guy who could never stand still. He was the teacher who taught the Electrical Course in the shop building, back in the alley.

Had I known then that "Mr. Wentzel" was actually W2HX, I would have been tempted to cut a class now and then, or perhaps dash over during recess to extract from him some assistance to accomplish my dream ambition.

For thirty or more years, from the early twenties to the late fifties, "Mr. Wentzel" imparted knowledge, taught and graduated many students at his technical classes. Many of those graduates have succeeded and distinguished themselves as leaders in the Industrial fields of endeavor.

Occasionally, during a conversation with "BB", he would mention a former graduate, and it would be a well-known name, immediately recognized as an executive giant in the top echelon of an Industry such as Public Service Electric and Gas Company, Westinghouse, General Electric, and many others. And it's a fact that some of those students call "BB" to this day for advice on a tricky problem.

He has certainly made his contribution to Society, this wonderful man, "Mr. BB Wentzel", who just recently conquered the Mount Everest of radio towers in this area, the Channel 52 mast that rises almost one thousand feet above the ground.

One ponders why climbing towers is one of "BB's" pet challenges. Perhaps it is to see how close he can get to HIM, HE who has endowed "BB" with so many fine attributes. And as the signals radiate from the antennas on that huge mast, so does this giant of a man radiate friendliness, warmth, and knowledge to all of us who are privileged to have known him - "BB" Wentzel - Mr. W2HX.

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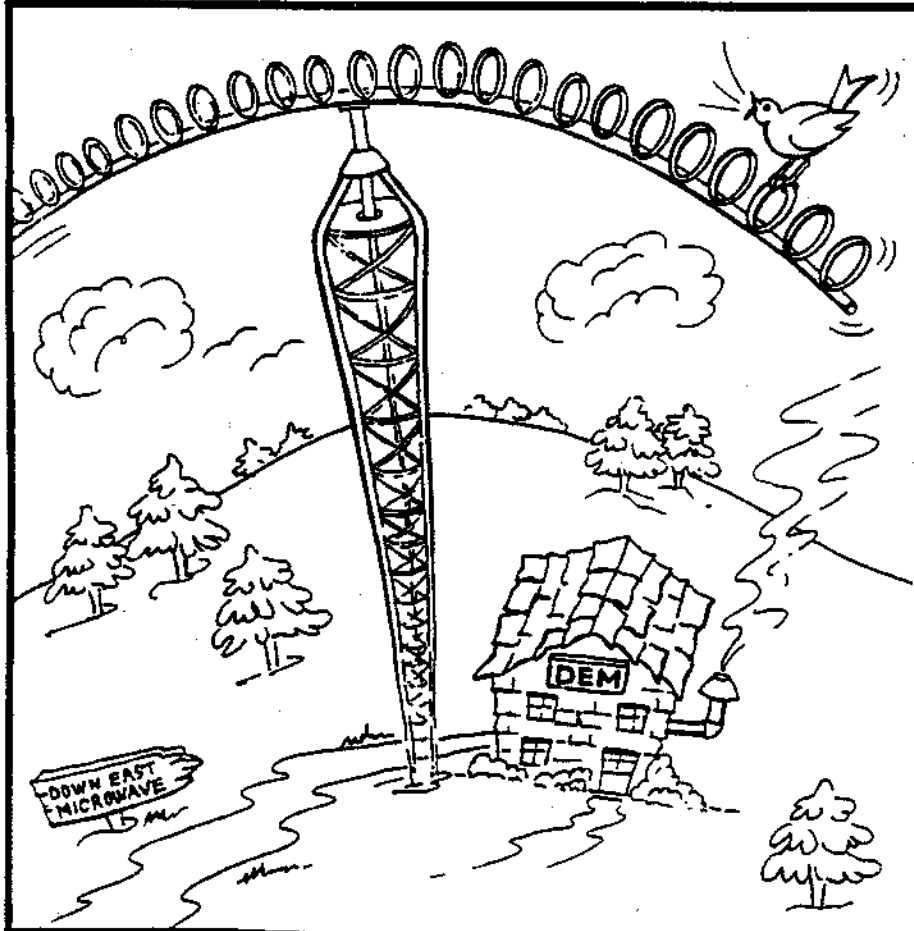


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