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

CHEISE BITS



CLUB MEMORIAL CALL

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ARRL Affiliated

VOLUME XXXVIII

April 1996

Number 4

THE PREZ SEZ

According to the Chinese calendar 1996 is the year of the rat. And so far, it has been a pretty accurate predictor for the Packrats. Our members produced record individual scores in the January SS and from all reports it looks like we will have the highest score in the club competition standings. Our latest sponsored activity the monthly UHF-Microwave Activity Night was a great success on its Leap Day kickoff and it continues to be a "looked forward to" event each month. Dick, N3AOG reports that Ladies Night 1996 is shaping up to be the social event of the season. Bob, WB2YEH has reminded all of us that 1996 is the 40th anniversary of the formation of the Mt. Airy VHF Radio Club and is planning a very special program for the May regular meeting. And just to show that good things happen to clean liv'n folk like us, we have received verbal assurance that the Drive-in hamfest site will again be available for Hamarama in October

The next big activity on the club calendar is the upcoming June contest. Ron, WA3AXV is hard at work mapping out the club contest strategy. A preliminary contest inventory was taken at the W3GXB estate on March 23rd. As expected, some antenna work and tower base construction will be required before we head off to FN21 in June. When you hear the call to help, I hope you will answer. For too many years the club contest effort has been shouldered by a handful of faithful members who tirelessly work all weekend to place W3CCX in the top club standings. The result has been that the Packrats have finished in the middle of the pack for the past several years. This year is going to be different! The faithful few, scarred but unbowed are determined to take up the fight once more and have put out the call to all able bodied Packrats and friends to mount up and ride to the sound of the guns. Just as in this past January, the difference between winning and losing will be decided by the determination and enthusiasm of ALL of our members. Any help you can provide will be gratefully accepted. If you can spend a day or the full weekend with us on the mountain you will make a difference. Even if you can't make the trip up the hill, just working W3CCX on all the bands from your home station can put us over the top. I can tell you from personal experience that during the long grueling hours of contesting nothing lifts our spirits more than working stations back home. With your help and support this truly can be the year of the rat.

Our April meeting is the Packrat annual ARRL Night. Kay Craigic, WT3P our new Atlantic Division director along with Jon Bloom, KE3Z, QST Senior Technical Editor, will join us at the meeting on April 18th. We have also invited Ron Klimas, WZ1V, the winner of the worked most Packrats Award during the January contest. Please join us in welcoming our League officials and guests. CU at the meeting.

73, Phil, WA3NUF

MEETINGS

Third Thursday each month at 8:00 PM Southampton Free Library 947 E. Street Road Southampton, PA 18966 Pack Rats CHEESE BITS is a publication of the Mt. AIRY VIIF RADIO CLUB, INC. Philadelphia, PA, and is published monthly.

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TRUSTEE OF CLUB CALL - W3CCX

Ron Whitsel, WA3AXV whitsel@nosc.mil (215) 355-5730

PACKRAT 222 MHz REPEATER - W3CCX/RPTR

222.98/224.58 MHz, Churchville, PA

OFFICERS: 1995-1996

PRESIDENT: WA3NUE, Phil Migulez WB2YEH. Bob Fischer VICE PRES: REC. SECR: WA3AQA, Walter Zumbach TREASURER WA3JUE. Dave Mascaro N3AOG, COR. SECR: Dick Comly DIRECTORS: N3ITT,

Alan Sheppard (1 YR) N3DQZ, John Kauker (1 YR) N3OZO. Don Schwartzkopf (2 YR) WB3KRW, Steve Dallas (2 YR)

MONDAY NIGHT NETS

FREC	7	NET CONTROL	
50.150	MHz	K3EOD	
144.150	MHz	W2BIF	
222.125	MHz	WB2YEH	
224.58R	MHz	N3ITT	
432.110	MHz	WA3AXV	
1296,100	MHz	WA3NUF	
903,100	MHz	N3AOG	
	50.150 144.150 222.125 224.58R 432.110 1296,100	144.150 MHz 222.125 MHz 224.58R MHz 432.110 MHz 1296.100 MHz	

COMMITTEE CHAIRMEN

LADIES' MIGHT: N3AOG	215-443-9965
JUNE CONTEST: WA3AXV	215-355-5730
HAMARAMA: WB3JYO	609-538-1687
VIII CONFERENCE: KB3XG	610-584-2489

PACKRAT BEACONS - W3CCX/B

432,298 MHz	903.071 MHz
1296,262 MHz	2304,034 MHz



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STEVEN N. WHITE

Attorney at Law

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Calendar of Coming Events - April 1996

	Catched of Commit 2 vents 22pm 1270
4	Passover
5	Good Friday
6	Packrat Ladies Night will be held at the Mill Race Inn, Holland in Warrington, Pa. starting at 6:30 PM.
7	Easter Sunday
11	Packrat Board of Directors Meeting at the QTH of Brian, N3EXA at 8 P.M. All interested parties invited. Call 215-257-6303 for directions.
12	Physicist John Thompson demonstrated his discovery of a body smaller than the atom, a negative charged he called a corpusclen now known as an electron in 1897.
13	AARG 8th Annual Hamfest & Computer Show will be held at the North Lebanon High School, Fredericksburg, PA
15	ARRL 144 MHz Spring Sprint (Monday evening) starting at 7-11 PM local time. See April QST, page 109 for rules Results will be published in the NCJ.
18	Packrat Meeting at the Southampton Free Library at 8:00 PM Featuring ARRL Night. Bring and/or invite your on the air VHF buddies. All VHFers invited. The speaker will be Jon Bloom, KE3A, Editor of QEX.
21	Lyrids meteor shower peaks at 2136 UTC.
20-21	21st Annual Trenton Computer Festival at Mercer County Community College, just north of Trenton NJ. This is the longest running computerfest in the world. No-Code License cram sessions and a separate packet radio conference. VE exams all day Saturday.
21	The Pen-Del Hamfest will be held at the NUR Temple, 198 DuPont highway (Rte 13 near US40 split), Newcastle DE. Talk-in on 224.220 and 147.225+.
23	ARRL Spring 222 MHz Sprint (Tuesday evening) 7-11 local time. See April QST, page 109 for rules.
25	Italian engineer and inventor Gugliemo Marconi, inventor of the wireless telegraph and Nobel Prize winner was born in 1874.
25	LEAP INTO THE MICROWAVES with the Packrats! 903 and above. Starting on the 4th Thursday of the month and continuing every 4th Thursday of the month operate from 8 to 10 PM local time on any band 903 MHz and above. For coordination on those difficult long haul contacts 144,260 MHz is the suggested liaison frequency. So here's your chance to fix what broke in the contest and work all those stations you missed.
May 5	Warminster Amateur Radio Club HAMFEST '96 at the Middletown Grange Fair Grounds, Penns Park Road, Wrightstown, Pa. TI on 147,69/09. VE testing.
CHEES	SEBITS SUBSCRIPTIONS
frequenci	ts subscriptions are available to everyone interested in activities and information from the VHF thorough the microwave ies. Subscriptions are for 1 year of 12 issues. For a subscription, send the following information: Call:
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Tours	State: ZIP:
Cubanist	State:
	tion Rate: \$10.00 per year (USA), \$12.00 (Canada), \$15.00 (Worldwide)
April 199	· · · · · · · · · · · · · · · · · · ·
	Bob Fischer, WB2YEH

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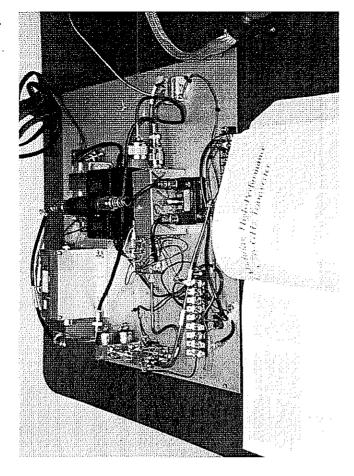
7258 Walnut Avenue Pennsauken, NJ 08110

HOMEBREW NIGHT RESULTS

The Rats are still building away. The following entries were presented at the Marsh meeting of the Club in competition for awards in the following categories: Most Ambitious, Best Design, Best Construction and Most Unique.

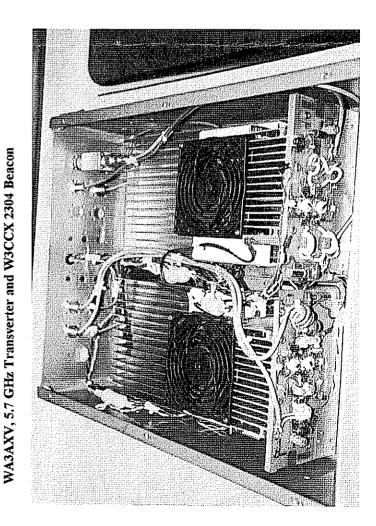
<u>Homebrewer</u>	PROJECT (s)			
Dave, WA3JUF	Signal Source Assembly. Four separate signal sources with variable attenuators for equipment alignment. 903/1296 MHz -500 mw., 2304 MHz - 300 mw, and 3456 MHz - 200 mw.			
Dave, WA3U	Two Meter Transverter (WB3JYO design). 35 watts out with a massive heatsink. Completed 2 days before the January contest (obviously was trying to win points with the judges).			
	2 Meter Power Amplifier, Two push-pull MRF 150's based on the KB3XG/WB3JYO design. 120 watts so far (power supply limited). Expects to get 200 watts out.			
Richard, K2EVW	3rd Generation Sequencer. Just like the handbook "except" for a few mods.			
Mark, WB2JHG	903 MHz Transverter using Toko helical filters. 12 watts output.			
Ron, WA3AXV	Club Beacon Project. Beacons for 432 MHz through 2304 MHz, Presently on top of the PECO building in downtown Philadelphia. The 2304 MHz beacon was shown - being serviced by the "factory", 432 Beacon has 5 watts out, 903 - 5 watts, 1296 - 5 watts, and 2304 - 1 watt out.			
	5 GHz Transverter.			
Pat, WB3DNI	432 MHz KW+ Amp (under construction) based on a K1FO design.			
Drex, W3ICC	2 Meter Transverter, brick power amp, 5 watts out.			
Dick, N3AOG	Homebrew 10 GHz circular waveguide made from standard 3/4 inch plumbing pipe including bend and launchers. The launcher has 25 dB return loss. Photos of his waveguide run up the tower were shown. Loss was approximately 2 dB for a 46 ft run.			
	Tiltover mechanism for reducing wind loading for two permanently mounted solid dishes on a tower. Folds the dishes horizontally.			
	HB scalar feed from for 10 GHz, 70 % efficiency, similar to the one he uses on 5.7 GHz.			
Joe, AA3GN 10 GHz HB Transverter, N1BWT approach, 540 MHz DEM LO, modified TVRO LNA, approx. 50 to 100 mw output, 2 meter IF. Including HB feed and filters.				
Bill, AA2UK	HB 5.7 GHz Transverter with dual stage "LUA" LNA and 65 watt 5.7 GHz TWTA.			
John, KB3XG	4 HB Solid State Power Amplifiers, 300 watts out on 50 MHz, 250 watts on 144 MHz, 220 watts on 222 MHz, and 180 watts on 432 MHz.			
Paul, WB3JYO HB 2800 volt, 1 amp continuous DC Power Supply (for the driver).				
Len, N3NGE Photos of new towers and antennas erected this winter at his new QTH and stories of soldering new connectors while at the top of the tower.				
And the Winner wer	Most Ambitious: Ron, WA3AXV Club Beacon Project Best Design: Dick, N3AOG HB 10 GHz Circular Waveguide Best Construction Pat, WB3DNI 432 MHz Amplifier Most Unique Richard, K2EVW Sequencer			



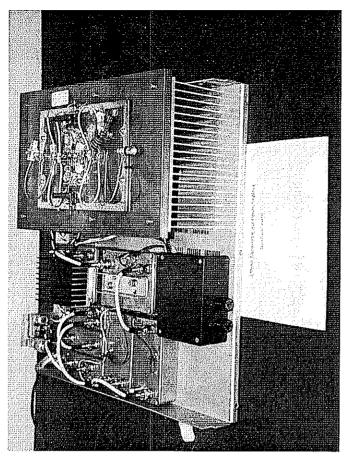


AA2UK, 5.7 GHZ Transverter

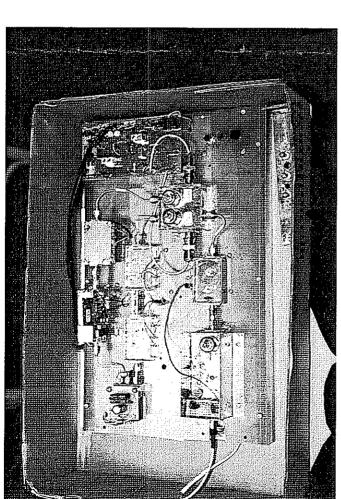


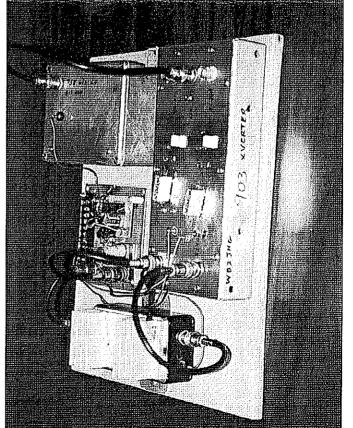


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WA3U, 2 Meter Transverter and Power Amplifier





AA3GN, 10 GHz Transverter

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WA3JUF, 903, 1296, 2304, 3456 MHz Signal Sources

VHF+ NEWS & ACTIVITY

By Jerome Byrd, K3GNC

"WELL, THE EAST COAST HAS THE NUMBERS AND THEY WORK A LOT OF BANDS. THE SOUTHERN STATES HAVE THE SPACE YOU NEED TO RUN SIX METERS EVERYWHERE. THE WEST COAST STATES HAVE THE MOUNTAINS AND THOSE FLAT NEVADA SANDS, THE NORTHERN STATIONS HAVE AURORA TO WORK, BUT IT GETS PRETTY LONELY UP THERE. I WISH WE COULD ALL HAVE MIDWEST, WISH WE COULD HAVE MIDWEST WISH WE ALL COULD HAVE THOSE MIDWEST GRIJDDSS" (VHF+ MEETS THE BEACH BOYS)

<u>ON THE BANDS:</u> Propagation may finally be improving. AA2UK (FM29) reported working VE4RKK - EN93 (He's back), WA3WZG -EN81, KDR4? -FM06 on Monday evening 3/18/96. Six meters roared to life with a two hour double hop opening to the east coast and points in-between on Tuesday evening - 3/19/96.

STATION WATCH: Bill, AA2UK, had some minor wind damage that will require him to take down all of his antennas. This is a major effort and probably will keep him off the air for an entire day.

LET LOOSE THE DOGS OF WAR: Mark, WB2JHG, is now on 903 MHz with 5.6 GHz coming soon, Rick, WC2K, and Bob, WB2YEH, Doug, WA2LTM, will also be on 5.6 GHz soon.

WHERE OH WHERE IS CARMEN SANTIAGO: Aurora?

ONE BRILLIANT, OBSERVANT MAN'S OPINION:

SEX, LIES, AND VHF+ PROPAGATION: Part I -LIES

There will be plenty of sex talk in this article.

You only need 25 watts and a 13B2 to work 2 meters.

I don't know why you can't hear my seventy watts, I only worked Texas last summer with it.

VHF+ is basically line-of-sight, if the band is not open.

There is no one on 2 meter SSB I listened for 2 hours.

Thanks for the 5X5 report. OK on the thousand watts. We copy you about the same, so I guess we don't need a preamp.

WZ1V was only 5X4 here, but he gave me a 5X6, I guess my 100 watts is doing the trick.

I'm going to get a horizontal beam soon, but my vertical is doing OK. I can work that guy, WZ1V, in CT, and AA2UK in NJ any time I want.

Please let me know about any openings, nets, propagation, etc.

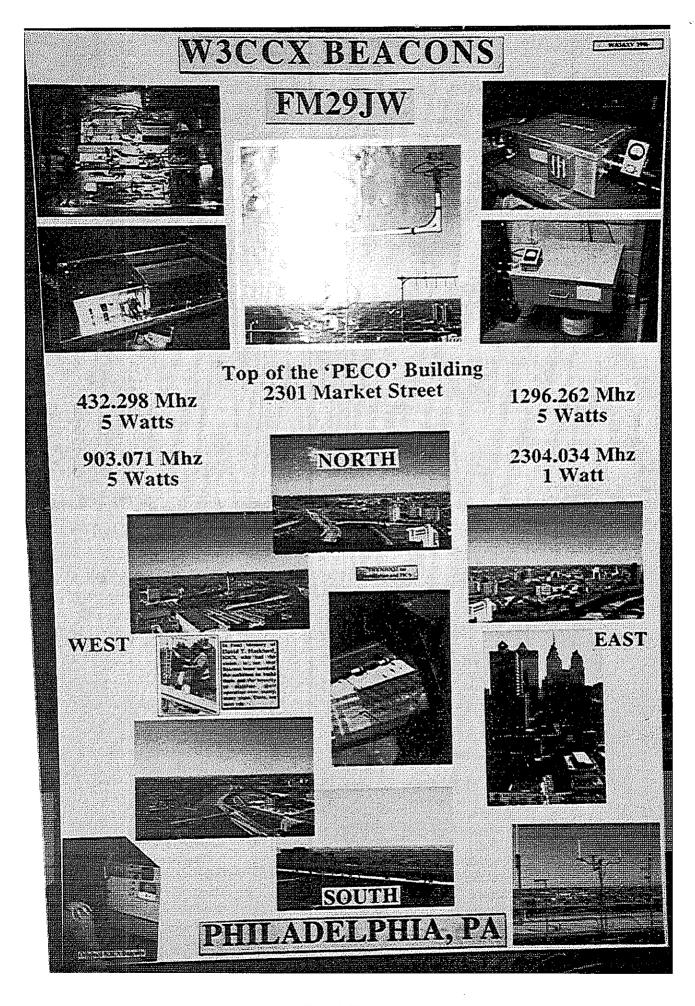
OFFICIAL RESULTS: "1996 WORKED THE MOST RATS AWARD"

	By Bob, W3GXB, Awards Chairm		
OPERATOR	STATION	"RATS WORKED*	
Ron	WZ1V	117	
Chuck	WA2ONK	108	
Dave	WA3PEB	63	
Tom	K2UOP/8	61	
Bruce	N2LIV	57	
Pete	N2LVI	36	
John	N3ONZ	23	
Don	N3LJC	18	

^{*} Total contacts on all bands.

VISITORS AT THE MARCH MEETING

Dick Pierce	K3MWV	Willingboro, NJ
Dan Mignogna	WB3IPX	Warminster, PA
Paul Ceglia	N3TMX	Morrisville, PA
Bill Nichelson	W3KOC	Willow Grove, PA
Doug Moser	WA2LTM	Cranberry, NJ
Jim Stone	W3FIE	Philadelphia, PA
Phil Isard	WF3W	Bethayres, PA
Dennis Gazak	N3DG	Huntingdon Valley, PA
Gary Halbe	N3EMY	Willow Grove, PA



WANT ADS:

(send all ads to the editor)

For Sale: Coax Relays. RLC Electronics Model S-2886, SPDT with type N connectors, Coil voltage 15 volts DC, Isolation 60 dB to 7 GHz, Power Capacity 100 watts, completely sealed. \$25.00 each plus \$3.00 UPS shipping. Loral Wavecom 4 position coaxial switches, sma connectors, 24 volt coils with indicator circuits. Similar to Loral Narda Model SEM143 that are specified for 0.2 dB maximum insertion loss to 3 GHz,).3 dB to 8 GHz and 0.4 dB to 12.4 GHz. Minimum Isolation specified as 80 dB to 3 GHz, 70 dB to 8 GHz and 60 dB to 12.4 GHz. Price \$35.00 each plus \$3.00 UPS shipping. Contact Dan, W1QK at 203-775-9525 (6-9 PM) or write to 121 Candlewood Lake Road, Brookfield, CT 06804.

For Sale: Black Delrin Insulators or Stainless Steel keepers. 3/16 in. \$11.50/50 pcs, \$18.50/100 pcs, 1/4 in, \$12.50/50 pcs, \$21.00/100 pcs. Contact Charles Byers, K3IWK, at 5120 Harmony Grove Road, Dover, Pa. 17315 or call 717-292-4901 between 6 PM and 9:30 PM evenings or 8 AM to 4 PM on Saturday.

For Sale: AM6155 Amplifier converted to 222 MHz, 8-10 watts drive results in 300+ watts output. Has been used for a couple of contests without a problem, \$275,00. Contact Gary, WA20MY at 610-539-6409.

JANUARY VHF SS CONTEST INTERNAL CLUB COMPETITION

By. Al, N3ITT

The contest logs are in and it appears that we have stepped up to our friendly club competition and have shown what the Rats can do. Part of this accomplishment took place because of the internal team competition within the club. The results of this competition areas follows:

<u>Place</u>	<u>Team No.</u>	Team Captain	Team Score
First	3	Bill, AA2UK	576,218
Second	1	Harry, W3IIT	493,312
Third	4	Pat, WB3DNI	480,195
Fourth	5	Brian, N3EXA	464,337
Fifth	2	Ron, WA3AXV	434,312

Members of the winning team were: W3HFY, AA2UK, N2DEQ, KB3TB, WB2VLA, K3DMA, WC2K, WB3YEH, W2EIF, WR3P, and K3EOD

TID BITS

In the April issue of CQ, Joe, N6CL, reviews Red Jets and Blue Sprites and Sporadic-E (no it's not an April 1 article). He describes recent discoveries of visible light associated with thunderstorms. More info can be obtained via the American Geophysical Union's web page at http://elf.gi.alaska.edu.Joe also mentions Geoff, GJ4ICD's web page at http://user.itl.net/~equinox, Ron, WZ1V's web page at: http://uhavax.hartford.edu/disk\$userdata/faculty/newsvhf/www/ham-www.html and PA0ZN's page at http://www.nitehawk.com/rasmit. Joe's web page at http://www.smu.edu/~jlynch includes the CQ WW VHF Contest rules.

In the April issue of QST, claimed North American, European and African, and Europe and Africa EMB Distance records are listed.

The San Bernadino Microwave Society reports that they have a new mail list Reflector and a home page at http://www.ham-radio.com/sbms/sbms.html.

In the March/April 1996 issue of the NTMS newsletter "Feedpoint", Kees, VE6KKZ describes an oscillator for a 10 GHz LO using a Motorola MC13176 PLO chip. The output of the oscillator without any multipliers is 942 MHz. Don, N0UGY describes a MMIC multiplier that is driven by a brick PLO having +7 dBm output at 2160 MHz. A single MMIC multiplier results in a -2 dBm output. A pipe cap filter and another MMIC brings the output to +10 dBm at 10.8 GHz.

The March 1996 issue of the Rochester VHF Group newsletter "The VHF Journal" reports the Rochester January VHF SS score at 1,730,193 points.

The March 1996 issue of the N.E.W.S. Letter has an article by Bruce, N2LIV, on a simple mod for a TS-450S/TS-690S to provide a low power output on 28 MHz to drive VHF/Microwave transverters. The same issue reports the NEWS score for the 1996 January SS as 1.7 M from 36 entries.

CYOAA DXPEDITION SUPPORT NEEDED

By Mike, VE9AA

Hello all DXers! This is Mike, VE9AA (ex-ve1mq) This is to inform the HF/VHF DX community that a group of 3 ops will activate Sable Island in late June '96 as CY0AA. We will be qrv on 2m-160m, concentrating on 6m, es also 30-10 m depending on propagation (We intend to fully utilize many modes of prop., mostly Es on 12,10,6, es 2)

This has been in planning now for about a year, and we are serious about going to operate (not vacation with the Ponics, hil) 3 stations will be set up, but one will be QRV ON 6M ALL THE TIME + HF. Our small group is We are requesting the help of the dx community to help pull off this dxpedition. WHY? you might ask? 3 guys to an Island 125 miles off Nova Scotia. How much could it be? Here's the initial breakdown: 1 flight, by special charter (only plane allowed on Sable) \$2,500.00 (times X 2) this is for 1,070 lbs of stuff (people incl.) 1 "shared" flight with one of the scientific groups traveling to (this is for additional gear, not taken on passenger flight) Sable \$1,000.00 (this is a maybe, not a sure thing) (times X 2) \$90.00/day/per op. + taxes X # of days on Island (we'll say 10) flight for 2 USA ops to Nova Scotia (roughly \$1,200.00) return postage for donated-on loan equipment \$1,000.00 \$1,000.00 mise. for qsl's, coax, food, fuel, etc...###update### \$200.00 "runway fee" each time we takeoff or land Also now \$0.58/hr for electricity making it well over 12 k \$.

We thought that we would keep the amateur community up to date on the progress and changes that the expedition is experiencing to date. We have still been considering the band conditions at that time of year and continue to look at them with some scrutiny. The strange, but very positive thing about this time of year, is the fact that propagation is very, very unpredictable and has been known to open to "long haul" propagation on normally useless bands, due to Es to f-layer linkups + doublehop Es. Not only have been 2, 6, and 10 meters been affected drastically, but all the way down to the 20 meter band have been affected, with very positive results, to all parts of the earth. With CY0 being very much in demand in the Asian areas, with Europe second, and the North American areas a far third, we have altered our band plan somewhat. Due to a great amount of enthusiasm regarding the 40/75/80/160 meter bands, we have decided to make the commitment to further equipment, and antennas to cover these bands also, if the propagation allows, This means additional weight for us to carry and pay for (\$\$), but if the dx crowd wants them >> then we'll be well prepared for ANY opening that presents itself. So to summarize where we are now, we're looking at more 40/75/80/160 activity, and an additional mode (RTTY). We feel that the propagation could be there, and are willing to make the commitment for the additional weight for transport. If any frequencies/bands open for to any extent, we'll be there. SO we'll be qrv from 160m > 2m, with hf for 2 stations and an additional station monitoring 6m continuously + hf activity band conditions permitting. Mike, VE9AA, had chance to "e mail" Matts, SM7PKK, and his approach is the same as ours. You work the areas of the world that need you, not necessarily, the ones that are the easiest to work. With 3 stations on the air, we hope to cover as much demand as humanly possible, on as many bands. We're not anticipating any certain number of days for the expedition since we are still looking at the financial support factor. Everyone in the group has agreed to at least 7 days, with 11 days at a maximum for two of the operators, and possibly 15 days for another of the operators. The costs are still atrocious! We are looking into boat transportation, which is more reasonable, but up to this time the authorities have not given this as an option due to the VERY dangerous waters we would be going into. (412 shipwrecks around this island to date!) The airline seems to be the method that causes the least amount of friction, and is the most attractive for their purposes. We are thinking that we can use this more cost effective, but less time effective, method of transportation. The boat access would cost about 2 days of the available operating time. So, we run into the problem of more operating time for more money, versus less operating time with a lesser transportation cost. Is there a winner in this equation ??? We hope the amateur community all over the world will be! We look forward to hearing from the amateur communities about your thoughts. We hope that after you have chance to read the update, we hope the swell of support will begin. The firning for the expedition is really coming up quickly. Any questions will gladly be answered as soon as possible. We must begin to get our financial house in order though, or the expedition will be scrubbed until 1997, or permanently. Once again, your assistance/support is appreciated, and hopefully will be rewarded by the satisfaction of many, many operators getting new DXCC bands/modes/new ones in the logs. We'll continue to keep you posted of any changes that occur.

Mini update for all you deserving dxers; as of Mar 23rd @ 7 pm local we now can add the following (by verbal confirmation only) to our growing list of sponsors: Cushcraft - HF/VHF antennas SMIRK - six meter international radio club...financial support. (tnx!) Battlecreek special gang-antenna for low bands sm7aed, and, financial & editorial help. We hope to collect another 2-3 k to be able to afford to go, otherwise. . . . This is an expensive venture, and we hope/aim to be qrv for 7-10 days somewhere between Jun 18th > Jul 2nd on 2m-160m ssb/cw/rtty With 1 station placing its emphasis on 6m (mike, VE9AA on this one), however we will also have the power to put 2 or 3 stations on 6m simultaneously if need be, due to the great donation by icom of 3 IC-706's We'll see YOU there! donations can be sent to Mike Smith, 131 Smith Rd. Geary, NB e2v 2g3 phone (506) 357-1900, fax (506) 455-5549 email wynder@brunswickmicro.nb.ca

Sincerely, THE CY0AA EXPEDITION TEAM, VE9AA, WASJOC, W9OEH, MIKE, KEN, WAYNE

P.S. Look for our pages on the Internet and World Wide Web also! http://www.cam.org/~dino/sable.html or-http://www.accessone.com:80/~vbook/1996/feb/cy0aa.html (302) 478-2757

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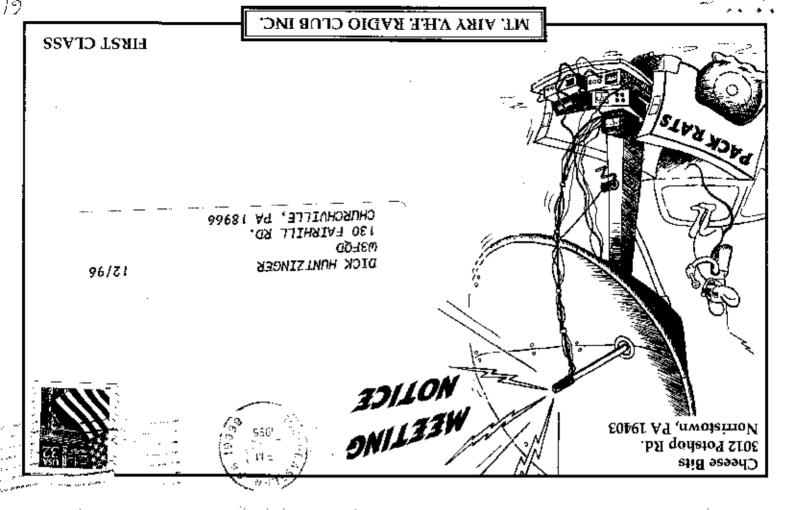


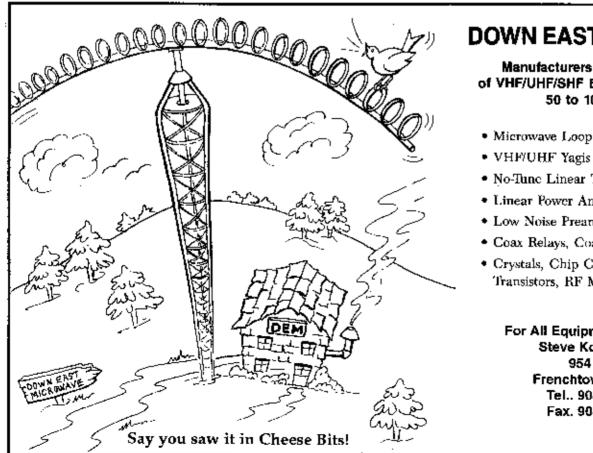
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