

PACK RATS'



CHEESE BITS



CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

MT. AIRY VHF RADIO CLUB, INC., PHILA. PA.

ARNS

50.2, 144.2, 432.1, 1296 MHZ, WR3ACD - Repeater, 222.98/224.58 Mhz

AFFILIATED CLUB: AMERICAN RADIO RELAY LEAGUE

Meetings: Third Thursday of Each Month at 8:00 P.M.

Southampton Free Library, 947 E. Street Road

Southampton, Pennsylvania 18966

VOLUME XX

OCTOBER, 1978

NUMBER 10

THE PREZ SEZ

Thursday, September 21, marked the end of Summer and the beginning of the Pack Rat Indoor Meeting season at the Southampton Free Library. Nearly a hundred Pack Rats and friends were on hand to hear a double technical talk by Ron, WA3AXV and Dan, WA3NFV. Ron gave an in depth presentation on his solid-state 220 Mhz amplifiers and Dan gave an eye-opening demonstration of linear amplifier operation. Both talks were accompanied by slides and demonstrations and were very well received by the audience. Hopefully, after hearing Ron's talk, some of the Rats will be less hesitant about tackling a solid-state project and get an amplifier on for the January Contest. And after seeing Danny's demonstration, I'm sure we'll all be less inclined to turn up the ol' mike gain control during the heat of battle in January.

Of course the big upcoming event is the Middle Atlantic States VHF Conference and HAMARAMA. Your Hamarama Committee has been feverishly at work on this one and Chairmen Ron, WA3AXV and Dave, W3ZD are predicting the biggest and best show ever. The Conference begins on Saturday at 9 AM at the Fiesta Motor Lodge in Willow Grove. An all-day schedule of technical talks by the East's top VHFers will be followed by a buffet dinner and the usual late night session at the Pack Rat "Hospitality Suite", where you can hear some of the country's top VHF and UHF men spin yarns about "the one that got away," and more corollaries to Murphy's Law than you ever thought existed! Sunday, of course, is the "HAMARAMA '78" at the Bucks County Drive-In, the day we've all been waiting for. Here, every year, hams gather to convert their old junk into new junk. Last year we had almost 2000 buyers and over 200 sellers - this year promises to be bigger and better, so don't miss it. There will be demonstrations, food, prizes and acres and acres of good stuff. See you all there!!

73, Bill, W3HQT

* * *

TID BITS

Jim Perkins, W3SMK, home from hospital attended the Sept. 21st meeting. Keep up the good work, Jim.

We were happy to see Dave Power, WB2VLA (W2AXU progeny) at our Sept. meeting. Dave's w Nancy is N2AII. Both going for their higher class of license.

Our friend N6NB, Wayne Overback provided Vermont contacts during the Sept. VHF QSO Party. He was operating N6NB/1 from Mt. Equinox with outstanding sigs down this way.

Congratulations to Wayne also on receiving the 1978 John Chambers Memorial Award at the Central States VHF Conference in August.

God's last name is not damn! (W3FQD has seen the light)

Ron, WA3AXV and Dan, WA3NFV did outstanding jobs in their technical presentations to a record crowd at the Sept. meeting.

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WA3JUF, Dave Mascaro (2 years)
K3MWV, Dick Pierce (1 year)
WB2SZK, Randy Bynum (1 year)

MONDAY NIGHT NETS:

144.2 MHZ	7:30 PM
50.2 MHZ	8:30 PM
221.4/224.58 MHZ	9:00 PM
1296.3 MHZ	9:15 PM
432.1 MHZ	9:30 PM

NET CONTROL

W2ELF
W3CL
K3GAS
W2ELF
K3IUV

FRIDAY NIGHT ATV NET:

439.25 MHZ	7:00 PM
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PACK RAT REPEATER - WR3ACD - 222.98/224.58

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Bruce Clark

CALENDAR OF COMING EVENTS
Syllabus by Lee, K3MXM

OCTOBER

HAMARAMA. Bucks County Drive In Theater, Rt. 611, Warrington, Pa. Our Club's one big effort - all members are asked to turn out and help with the many details and committees - contact Ron Whitsel, WA3AXV offering your services for a couple of hours...

- 1,2,3 Antique and Classic Car Auction and Exhibit - Lancaster, Pa.
- 1 ROSH HASHANAH
- 6-8 Grand Prix World Championship of Drivers Road Race, Watkins Glenn, N.Y.
- 7 Radio Amateurs of Greater Syracuse Hamfest, N.Y. State Fairgrounds, Syracuse, N.Y.
- 7-9 QRP QSO Party - See September QST, Pg. 75
- 8 21st Annual GAITHERSBURG HAMFEST, Gaithersburg, Md. a biggie and only about 2 1/2 hours driving time from Phila.
- 9 Columbus Day
- 11 YOM KIPPUR
- 12 Board of Directors Meeting - QTH, Don Hampton, W3CJU, 500 E. Court St., Doylestown, Pa. Directors and interested parties invited.
- 14 The Tenth Annual AMSAT Meeting, NASA Goddard Space Center, Greenbelt, Md. Come on down and hear about the OSCAR programs and future plans.
- 13,14,15 Region One Air Force Mars, Albany, N.Y. Convention
- 14-15 ARRL CD Party - CW
- 19 General Club Meeting - Southampton Free Library, Street Rd., Southampton, Pa. Topic: To be announced on Monday Nite nets. Open meeting to all. The Mario Raffle, Frankie's Silent Auction, Refreshments
- 21-22 ARRL CD Party - Phone
- 21-22 Jamboree on the Air - An annual gathering of Scouts, former Scouts and interested amateurs. All bands plus OSCAR, RTTY, SSTV. Special Stations from France and Switzerland HB9S/port. For more info - Harry A. Harchar, W2GND/K2BSA Boy Scouts of America, North Brunswick, N.J. 08902
- 24 United Nations Day
- 28-29 CQ Worldwide DX - Phone. A good contest to pick up many new DX Stations
- 31 HALLOWEEN

NOVEMBER

- 4 Third Annual Warrington Area Repeater Association Banquet, Warrington Motor Lodge. Street Road and U.S. 611, Warrington, Pa. Guest Speaker - Harry Dannals, W2HD, Joe Welch, K3CT, Larry Wills, K3ADS. Cocktails 6-7 PM - Dinner at 7 PM - \$10.00.
- 10,11,12 ARRL Hudson Division Convention, Great Gorge, McAfee, N.J. Those of us who have friends or harmonics wishing to learn Amateur Radio or upgrade their license, here are 3 classes starting up: Sept. 25 - Springfield High School, Contact WA3KFT, John Dyckman 215-497-1689. Oct. 5 - Franklin Institute - both Novice and General Contact Rolland Madara, W3PWG.
- 3 -
- (CONTINUED ON PAGE 4)

NEW PRODUCTS OF INTEREST TO HAMS

By Lyn, W3NSI

1. SSB/CW 432 T/R: The Icom IC 402 Matches the 2 meter twin IC 202 in size and layout. The unit can be set up for several 200 Hkz segments in the 430-435.5 Mhz band. Output is rated at 3 PEP, and receiver sensitivity is .5 uv for 10db sinad. Power is supplied by 9-C cells, or a nicad pack. Price, approx. \$375.
2. Two Meter FM T/R: The new Icom IC 280 covers the entire 2M band with either 1 or 10 watts of RF output. Receiver sensitivity is rated .6 uv for 20 Db quieting. Any 3 frequencies may be punched into the control head and recalled at will. These 3 channels will be retained in the memory even with the unit shut off. The front panel can be unplugged from the main frame and mounted remotely. Frequency readout is on a 3 digit LED panel display. Price \$432. Icom East, Suite 307, 13256 Northrup Way, Bellevue, Wash. 98005
3. Counter Pre-amp PA 800: DSI Instruments has just introduced a pre-amp rated at 15db gain from 20-800 Mhz. This has the effect of increasing sensitivity of a counter from 100mv to 12 mv over this frequency range. Unit operates on 8-13 VDC and also has a 115 Vac supply. Pre-amp is constructed in a cast aluminum box and has coax input and output fittings on each end. Price \$70. 7914 Ronson Road, No. G, San Diego, CA. 92111.

* * *

CALENDAR OF EVENTS CONTINUED

Cheltenham Evening School Class, Contact Ralph, WA3FOF, Ralph Alexander 215-276-4185.
News from S. Jersey: CW Training Net: Wed. evenings 8 to 9 PM 28.11 Mhz. Walt Schmidt, W2EA, net control. 2 Meter SJRA Net, Wed. evenings 9 PM 145.2 Miles Brown, W2PAU, net control.

* * *

VHF/UHF REPORT

By Jo, W2EIF

The big news this time concerns the big tropo opening of August 20,21,22,23 and 24. The bands, 144 and 432 were wide open for much of the period from the East Coast to Iowa, Missouri and all points between. It well may be the best opening yet observed. At least in my experience. I was able to work Iowa and Missouri, Ill., Ind. Ohio, Michigan and heard Ky. on 432. It isn't well known but every year during the period August 15 to 25 there occurs a good tropo opening, but usually not as extensive as the recent one.

The September VHF contest was good as usual with N6NB/1 on Mt. Equinox operating on all bands. It made Vt. easy - TNX, Wayne! The weather conditions for the contest were not very good but lots of contacts were available. I was disappointed about the 220 activity. It seems to have dropped off on the low end but picked up for 220 FM. WA3AXV worked about 11 sections using this mode and the repeater vertical antenna. It would appear that bigger antennas and more power plus more sensitive receivers should be prepared for the January VHF Contest.

* * *

144 MHZ Tropo on August 20,21,22,23

By Howard Sherer, WB2RBG/3

During this period I experienced some of the best tropo conditions that I have seen for my 13 yrs. on 2 meters. The band opened at approx. 9 PM local time on Sunday 8/20. Signals from Ark., Okla., Miss., Mo., Ill., Ind., Mich., Oh., were reported worked in this area. I regret that I was not on the air Sunday evening to work some of this choice DX. My activity started on Monday at 8 PM local time. I started off with WA9WHS, Ill., WB0SAX, Iowa, K0CPI, Mo., W0RWH, Mo. The evening continued with strong S9+ signals out of W9 & W0 land. I heard WB0YFG in Nebr. and a WA0 in Kans. But no contact. Below is a list of additional stations worked on Monday night.

WA4PGI, Va.	W9JVC, In.	WB4EXW, N.C.	WB9IOH, Ill.	WB8OQU, Mi.
K7SM, In.	W9JSX, Ill.	K9HDE, Ill.	K9KFR, Ind.	WA8HTL, Mi
WB9UWA, Ill.	WA4JUW, Ky.	WB0UFQ, Md.	WA0RJT, Iowa	WB8IGY, Oh.
WB9SYK, Ind.	WA9OZN, Ill.	K0MQS, Iowa	WD0AGR, Iowa	WB4YAO, Ky.
WA0QQD, Mo.	WB4NMA, Ga.	WD8ITF, Mi.	WB0TRV, Iowa	WA0ZNI, Mo.
		WB0FJV, Iowa	WD8CTF, Oh.	W7MNU, Ind.
		WB0VMD, Iowa	N8AES, Mi.	WB9NMG, Ind.

144 MHZ TROPO ON AUGUST 20,21,22, 23
CONTINUED

WB0VRN, Iowa	WB9WMM, Ill.	W0UX, Mo.
WA9RCY, Ill.	WB9WJZ, Ill.	WA4UJI, N.C.
W0RWC, Iowa *	K8TKW, Oh.	WA4FUV, N.C.
K9ZQK, Ill.	K8ZAM, Mi.	K4CAW, N.C.

* This contact with W0RWC Bob in Clinton, Iowa makes the 9th band that I have worked Bob on! 160 to 2 m Oscar 6 and Oscar 7.

I finally went QRT at 1 AM Tues. morning only to miss a new State, which came in at 0635Z (2:30 AM W5ITL from Miss. was in with 5 9 +10 signals.) The band was open all night and till about 9 AM Tues. morning.

My activity on Tues. night was limited but many of the above stations heard again, in addition worked N01LS in Mo. Wed. night got off to a good start with WA4LYS in Fla. at 0104Z. The band again was open till early the next morning. Additional stations worked were K4KAE, SC., W4USW, S.C., WA4JUW, Ky., K4EJQ, Tn., WA4CQG, Ala., and WA4UJI, N.C. By this time, I was looking for some long haul from the 5th District but had no success that night. Many of the stations worked during this 3 day period were running low power 10W and single 9 to 11 el. beams. I understand that 432 Mhz was also very good during this period. The period of 10 days before these openings also produced some good tropo with stations from N.B., Que., Ont., Me., N.H., Oh., Mi. having good signals. I have about 4 hours of tape of the tropo of 8/20,21,22,23 this will make nice listening for some of the cold nights to come. 73, Best DX., P.S. Worked WB5JAR, Ark. at midnite Monday August 21.

* * *

VISITORS AT THE SEPT. 21, 1978 MEETING:

WA3TSE, Bill Letuenko, Doylestown, Pa.	KA3ANH, Bill, Lansdale, Pa.
K2KRC/3, Frank Phila., Pa.	WA2DPU, Bill, Burlington, N.J.
DL2CJ, Alfred, Bad Neustadt, Germany	WA2FPK, Bill, Wilingboro, N.J.
K3KVS, Jerry Polin, Melrose Park, Pa.	N3ADI, Mike, Phila., Pa.
WB2VLA, Dave, Trenton, N.J.	K3PHY, Wil, Willow Grove, Pa.
	W3AYJ, Al, Phila., Pa.

* * *

CHANGE OF ADDRESS: WA3NFV, Daniel L. Mitten, 105 E. Broad Street, Trumbauersville, Pa. 18970.

APPLICATION FOR MEMBERSHIP:

K3LOM, Harry Brandt,	K3KVS, Jerry Polin	WA2DPU, William M. Smith
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* * *

RALPH, WA3FOF REPORTS

Does the name Papesu Mikemossit sound familiar to you? Well, it is the newest name of one of our brother Pack-Rats, Carl, K3DLS. He has been nominated and past his Vigil Honor for the "Order of the Arrow" and Papesu Mikemossit translates to "Patient Worker". Carl was named to the Vigil Honor because of his outstanding work in the "Order of the Arrow" Lodge and the Boy Scouts of America generally. So we now proudly add Papesu Mikemossit or Patient Worker to the other pseudonyms of K3DLS which includes such things as "gnome", "crome dome" and "the tall good looking guy with the curly hair" and a few more unmentionables here.

* * *

16 17 18 19 20 21 22 23	32 33 34 35 36 37 38 39	2 3 6 7 10 11 14 15
24 25 26 27 28 29 30 31	40 41 42 43 44 45 46 47	18 19 22 23 26 27 30 31
48 49 50 51 52 53 54 55	48 49 50 51 52 53 54 55	34 35 38 39 42 43 46 47
56 57 58 59 60 61 62 63	56 57 58 59 60 61 62 63	50 51 54 55 58 59 62 63
1 3 5 7 9 11 13 15	4 5 6 7 12 13 14 15	8 9 10 11 12 13 14 15
17 19 21 23 25 27 29 31	20 21 22 23 28 29 30 31	24 25 26 27 28 29 30 31
33 35 37 39 41 43 45 47	36 37 38 39 44 45 46 47	40 41 42 43 44 45 46 47
49 51 53 55 57 59 61 63	52 53 54 55 60 61 62 63	56 57 58 59 60 61 62 63

There are six groups of numbers. Select a number from 1 to 63 and note in which groups it appears. Add the numbers appearing in the upper lefthand corner of these latter groups and you will generate the number you selected originally.

Ric, K3QQ

TID BIT

Congratulations to WA3AAJ, Jim and Pat on a new addition to the family, weighing in at 8 lbs. on ounce - name of Peter.

* * *

220 MHZ PRE-AMP

By Ron Whitsel,

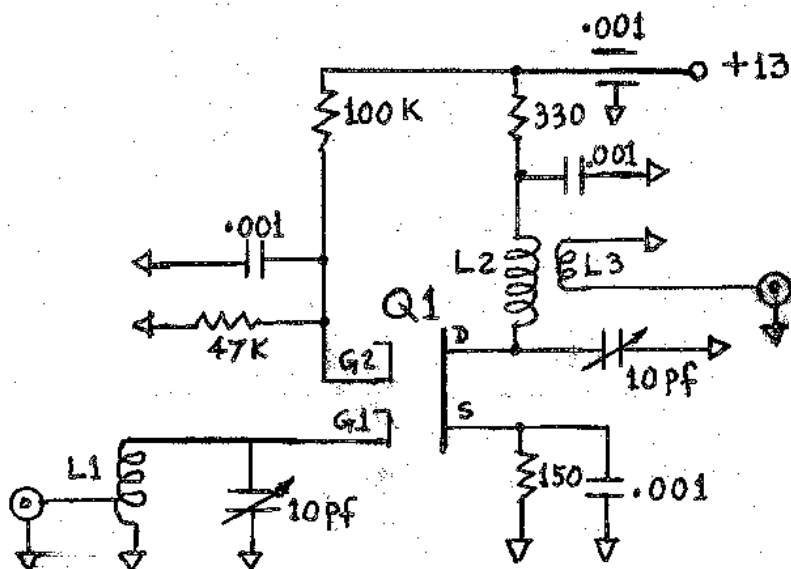
WA3AXV

Many of the 220 MHZ boxes are somewhat lacking in receiver sensitivity. Most that I have measured are usually in the .3 to .4 UV, for 20 DB of quieting, range. While this is not too bad for localwork, long range communication becomes easier with greater sensitivity.

The pre-amp shown in figure 1 was developed for use in the mobile installation which I described in previous issues of Cheese Bits. ^{1,2} Parts are not critical and any reasonable layout should produce excellent results. Gain will be 10 to 12 db which will take the average transceiver down to .1 uv for 20 db of quieting.

1,2 reference Cheese Bits - Dec. '77

Cheese Bits - Jan. '78



L1 - 2 1/2t, 1/4" d. #16, TAP ONE
TURN FROM COLD END

L2 - 3 1/2t, 1/4" d. #16

L3 - 1t LINK - COLD END OF L2

Q1 - 40673



* * *

FROM HR REPORT

Sept. 22, 1978

CANADA'S NO-CODE AMATEUR LICENSE goes into effect September 30, with the first exams scheduled for November 15. The "Amateur Digital Radio Operator's Certificate" gives the holder operating privileges on 2 meters and up and includes packet (computer-to-computer data bursts) and pulse as well as more conventional modulation modes.

Packet Radio Transmissions will be permitted on 220.1-220.5 MHz, shared with other modulation modes, while 221-223 and 433-434 MHz will be reserved exclusively for packet radio use. Packet would also be permitted on 24.00-24.01 GHz. Each packet transmission would require a "header" that would include the ASCII-coded call sign of the transmitting station, and no secret codes or ciphers would be permitted. Technical characteristics and modulation techniques for packet radio are to be determined by "Amateur experimentation."

Pulse Transmission will be permitted on two subbands in the Amateur VHF/UHF spectrum; P and P₁ on 145.5-145.8 MHz and P₀, P₁, P₂ and P₃ on 434-434.5 MHz, with P₀ through P₅ plus P₉ on the 1215-1300 Mhz bands and higher. Though any Canadian licensees will be permitted use of packet radio, passage of an additional test on the relevant portion of the new Amateur Digital Radio Operator's Certificate exam will be required of other licensees who wish to use pulse transmission.

Holders of The New no-code Canadian certificate may upgrade to the Canadian "Advanced" certificate simply by passing a 15 WPM code test, but must wait one year after initial licensing before becoming eligible to do so. Canadian Amateurs may now also retain credit for passing a CW test for up to one year after it's taken, even though the written test was failed. Amateur exams will now be given four times annually in January, April, July, and October.

FROM HR REPORT CONTINUED

Details Of These Significant Changes in Canada's Amateur licensing regulations are contained in DoC Bulletins TRC-24 and TRC-25. Thanks CARF News Service.

* * *

FOR WANT OF AN INCH OR ARE ALL FLEA MARKETEERS CRAZY - As Told To
Cheese Bits by Doc, K3GAS

After Lee's (K3MXM) yellow van broke down in the wilds of N.J., he looked around and found another vehicle. This was nicer, newer and larger-just the thing for flea marketing. It would hold lots of goodies, that Lee seems to have, and would be very comfortable to ride to the various flea markets that Lee always seems to know about. Being a Flea Marketeer myself, I looked forward to joining Lee on these safaris. Anyway, he was hauling my stuff also.

Everything was great, we flitted from one Hamfest to another, then came the flyer from Harrisburg. On it was a note saying the garage, where the hamfest was to be held, could only accomodate vehicle 7 feet high maximum. Lee became shook up and went somewhere and had his van measured. 7 feet 1 inch. Worry, worry, worry. I assured him that the 7 foot height really meant 7 feet 1 inch and after the van was loaded we would be okey. This sounded logical to Lee, so 5 AM Sunday, the 14th we took off for Harrisburg. It was a beautiful morning as we got on the Green Belt (Pa. Tpke to non CBer) and in a few minutes, contacted W3ZD on 2 meter FM. He was out our back door until Lee and I stopped for breakfast. By the time we were finished, Dave was ahead of us by about 5 miles. We kept in contact all the way to the garage site in Harrisburg. A line of cars was already there waiting to get in but the garage attendant was late in opening.

Finally, the garage was opened. There was a flexible sign at the entrance at the 7 foot level Lee slowly edged the van into the entrance and his top just brushed the sign. Half the onlookers said we would be able to make it and just as many said 'no way.' Anyway, we went up the ramp to level "I" which was high, and eased past the ticket machine and suddenly we heard a scrape. We were too high by 1 inch. Some of the people who were going up by elevator came by and got into the van hoping to lower it by the extra weight. Not so - Lee had put heavy duty shocks on the previous week. Lee backed the van into a corner out of the way and we started to palaver as to what we could do. We could set up on this level "I" but no one would ever see us there since the flea market started on Level "II" and worked its way down. Worry, worry, worry. Finally, Lee blurted out, let's take the top off the van. There are only 6 bolts holding it 'Okey, I said', forgetting the top weighted about 500 pounds. We unloaded enough stuff to get to the bolts and finally had them out. Some of the Harrisburg people helped lift the top off and after reloading, we were on our way up. When we arrived at Level "7", we saw that we could go no further so set up at that point. Everything higher was occupied. From then on, everything went fine. A lot of people looked for Lee and his fine assortment of stuff, so we both were busy and made a lot of sales. K3IPM, Stan, stopped by to say hello and looked fine and wants to be remembered to all.

Later we packed leaving room to get in and rebolt the top which was at Level "I". Again we had much help on putting the top back on and went on our merry way back to the Turnpike towards home. On the way we unwound near Morgantown with liquid refreshments and dinner.

We arrived home tired, but happy and laughed about the whole affair. However, at the time, we thought we were in for a lot of trouble all because of 1 inch.

* * * * *

MID-ATLANTIC STATES VHF CONERENCE
(Sept. 30, 1978)

PROGRAM

REPEATER TECHNOLOGY - Roger Blough, Moderator. Roger is trustee for the Philadelphia Area VHF Society Repeater System located in the Benson East, Jenkintown, Pa. He has ten years experience in the field of mobile two-way communications, and is associated with Bogart Industries. The panel will include Dan, WA3UTI, Larry Wills, K3ADS- area Repeater Frequency Coordinator, Gary Dallas, W4YHO, coming from Connecticut where he operates an excellent repeater system, and Jim Spencer, W3QQH who is technical manager of the outstanding PHILMONT MOBILE RADIO CLUB REPEATER. An open forum is planned encompassing the latest in repeater operation and regulations.

HIGH POWER SOLID STATE UHF AMPLIFIER TECHNOLOGY - Elio Colussi, W3RZU. Elio is operations manager for SOLID STATE SCIENTIFIC CO. located in Montgomeryville, Pa.; a leader in the field of UHF transistor development. He is a charter member of the Mt. Airy VHF Radio Club. He will describe and demonstrate the construction of solid state 200 watt amplifiers and give valuable information on the construction of such amateur devices.

OSCAR - Bernie Glassmier, W9KDR. Bernie is coming from ARRL Headquarters where he is the Coordinator for ARRL OSCAR Operations. Bernie was the outstanding program speaker at this years ARRL night at the Mt. Airy VHF Radio Club. He will describe proper OSCAR communications and give a slide presentation of the latest satellites.

LOW NOISE RECEIVER FRONT ENDS - Paul Wade, WA2ZZF. Paul is Chief Application Engineer for MSC Corp., located on Somerville, New Jersey and a well known QST contributor in his field. He has made outstanding contributions to the application of GasFets in UHF. Paul appeared on last years program and you will remember him as an entertaining and informative speaker.

PROPOGATION PHENOMENA - Mel Wilson, W2BOC. Mel has spent a lifetime in the study of Ionospheric Propagation. He was instrumental in coordinating the gathering of vast amounts of scientific information during the geophysical year. His discussion will include the areas of interest to VHFers, mainly E-skip. He will touch on F2, tropo, sunspots, aurora and ducting. A question and answer session is planned.

* * * *

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