

PACK RATS'



CHEESE BITS



CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

MT. AIRY V.H.F. RADIO CLUB, INC., PHILADELPHIA, PA. ARMS

(50.2, 145.2, 221.4, 432.03 & 1296.3 MHz)

AFFILIATED CLUB: AMERICAN RADIO RELAY LEAGUE

MEETINGS: THIRD THURSDAY OF EACH MONTH AT 8:00 P.M.

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VOLUME XV

OCTOBER, 1973

NUMBER 10

THE PREZ SEZ

Our club has received a 220 Mhz repeater and a duplexer from the Clegg Division of ISC. This machine has an input frequency of 222.98 Mhz and generates an output of 11 watts to the antenna on 224.58 Mhz.

Application has been made to the FCC for a repeater license with installation at the QTH of WA3AXV, Churchville, Pa. Pending receipt of the license the machine has been tested in the simplex mode from that location using a coaxial antenna, designed and constructed by K3UJD and W3ZD. Results of these initial tests have been very encouraging, with full-quieting, two-way transmissions over distances of approximately 10 to 15 miles with a mobile station and 30 miles with a fixed station.

Equipment used at the remote locations has been Clegg FM-21 transceivers which have been described recently in both QST and Ham Radio Magazines. They have approximately 8 watts output and one crystal provides both receive and transmit capabilities for working through a repeater.

Our permanent possession of the repeater is contingent only upon the purchase of at least 20 of the FM-21 transceivers by club members.

Club ownership of the repeater certainly has many advantages. The swing to 220 Mhz FM, as the 2 meter repeaters continue to be heavily populated, is inevitable. We have demonstrated our progressiveness by promoting AM activity on the 220 Mhz band in the past, and should continue to do so by establishing the first repeater on the band locally. It will undoubtedly be called "The Pack Rat Repeater", thus providing a new boost to our Club's prestige.

The advantages of repeater use to the individual are obvious, particularly when the repeater is continuously monitored by others from both fixed and mobile stations. W3CL has ably represented our club in the discussions with Clegg and has negotiated an attractive arrangement whereby club members may purchase the FM-21 transceivers at a price substantially less than that advertised. Please contact Harry for details. Let's have an active repeater as soon as the license arrives.

A parting reminder: All club members are requested to be present at the HAMARAMA, October 7, Warwick Fire Hall, Jamison, Pa. to assist the committee (W3ZD Chairman) so that last year's tremendous success will be duplicated.

Dick, W3FQD

PACK RATS' CHEESE BITS IS A PUBLICATION OF THE MT. AIRY V.H.F. RADIO CLUB, INC. PHILADELPHIA, PA. AND IS PUBLISHED MONTHLY.

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* * * * *

DEADLINE FOR ARTICLES IS THE GENERAL MEMBERSHIP MEETING.

SWAP SHOP ITEMS - NO CHARGE

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WA3NGK, HARRY BROWN
K1SFF/3, TONY SOUZA

DIRECTORS' MEETINGS ARE HELD ON THE SECOND WEDNESDAY OF EACH MONTH AT DESIGNATED LOCATIONS.

MONDAY NIGHT NETS:

145.2	-	7:30 P.M.	W2EIF
50.2	-	8:30 P.M.	W3CL/W3GEW
221.4	-	9:00 P.M.	K3GAS
432.03	-	9:30 P.M.	K3IUW
1296.3	-	10:00 P.M.	K1SFF/3

NET CONTROL


FRIDAY NIGHT NET:

439.250	ATV NET	-	K3ZKO/WA3AXV
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OCTOBER

- 7 2nd Annual Pack Rat HAMARAMA - Warwick Fire Company Firehouse, Jamison, Pa. Route 263. 10 miles north of Willow Grove, Pa. Flea market, Auction, Tail Gate Selling, ATV Display, Door Prizes. The biggest and only Hamfest in the Greater Philadelphia area. Come on out. Bring your friends. Bring your "merchandise" to sell. Tables and parking spaces available.
- 10 Board of Directors Meeting, QTH, W2AXU, Jack Power. 102 Upper Ferry Road, Trenton, New Jersey. If lost call 609-882-8811. Directors and interested parties cordially invited to attend.
- 18 First Indoor Meeting of the season and first meeting at our new meeting place. Note this is Thursday Evening. The meeting place is Southampton Free Library. 947 E. Street Road, Southampton, Pa. 8:00 P.M. A very interesting and informative evening is in store for you. Refreshments, why, of course. Club members, their friends, other club members cordially invited.
- 21 Gaithersburg Hamfest, Gaithersburg, Maryland.

NOVEMBER

- 14 Board of Directors Meeting, QTH, WA3NGK, Harry Brown.
- 22 General Club Meeting, guest speaker, Mr. Walter Maxwell, W2DU. SWR, What's it all about. How it can help you. How to use it and how to understand it.

DECEMBER

- 20 General Club Meeting. Preparations for the January VHF SS Contest (January 5-6, 1974). The big contest is only 3 months away. Get started and finish all those outside antenna/rotor jobs while the weather is still okay.

* * *
SIX METER REPORT

By Rich Pattison, K3ACR

September started off with good ground wave and a continuing increase in activity. WA4EQO in Prospect, Virginia, Southwest of Richmond, was worked along with a Martinsburg, W. Virginia station WA8NQB. On Wednesday the 5th a very good opening into Florida stayed in for three hours.

Two contests filled in the middle of the month. First the VHF QSO party with lots of good contacts to be had on SSB along with sections from Maine to N. Carolina and West to Michigan. A fine aurora also highlighted the contest for a couple of hours with good quality contacts.

The Space Net Contest also provided lots of contacts both AM and SSB, with the club coming in Number One as of the writing of this report.

Many nets are conducted on 6 meters both AM and SSB. Space Net Friday nights at 8 P.M. on 50.2. East Coast VHF SSB net Sunday mornings at 11 A.M. on 50.175 also the Delaware SSB Net Sunday mornings at 10 A.M. on 50.150. Remember also to turn those beams to the Northwest and North for Upstate Pennsylvania, and Western New York. WB2IGD in Elmira and W2FND near Syracuse are on almost every night from 11 P.M. until. Good opportunity to check out equipment and keep things active. Good hunting.

NEW PRODUCTS OF INTEREST TO HAMS

By Lyn, W3NSI

1. Regency HR 220 - The Regency Company has an FM transmitter-receiver unit covering 220-225 Mc. The unit will run 1 or 10 watts output selected by a front panel switch, provides up to 12 channels, is all solid state, and comes thru with crystals for 223.5 Mc simplex. Size and weight are the same as the HR2B for 2 meters. Price, \$239.00. 7900 Pendleton Pike, Indianapolis, Ind. 46226

2. Waveform Generator/Frequency Meter Kit - MITS Co. (available direct or from Olson Electronics), has a new kit that provides two units in one; a waveform generator that produces sine, square, triangle, ramp, sawtooth, and pulse carrier waves from 1 hz to 150 khz in six ranges, and a freq. counter that reads from 1 hz to over 10 mhz using a four digit readout. WG 1700 has separate outputs for carrier and modulator and both AM & FM modulation are available, internal or external. Size 13 x 5 x 5 $\frac{1}{2}$ inches. Cost, \$140.00.

3. Midland Scanner Receiver - The new Midland 13-906 4 channel scanner is a pocket size unit that covers 150-174 mhz. Most of these Hi-Band receivers can be adjusted to cover the FM section of the 2 meter band quite easily. The unit is 7/8 thick, 6 $\frac{1}{2}$ high, and 3 inches wide, about the size of a pocket calculator. LEDs indicate which channel is being received, and sensitivity is rated at .5mV for 20 db quieting. Automatic or manual scanning modes are available in this double conversion receiver. Price, \$130.00. Available Trevoise or Almo Radio.

* * *

VHF/UHF REPORT, BY JOE, W2E1F

It appears that the Es season is about over with the Dx contacts becoming fewer and fewer on 6 meters. The Sept. QSO Party enjoyed some small openings on 6 but only the normal signals on 2 meters and above. The contest was helped out a great deal by an aurora which occurred in the afternoon (during the SJRA Picnic). The aurora was used to great advantage by the 6 and 2 meter boys for extra sections from the Midwest. K8III, the strong signal from Ohio, that is always present at the low end of 2 meters was on during the whole contest. He managed to work 31 ARRL sections and all call areas except 6 & 7. He had over 200 contacts. He came east just in time to attend our recent directors meeting. He indicates that he also listens above 145.0 for the technicians so don't be afraid to call him if you are above 145 mhz.

The upper bands, that is above 2 meters, have not shown any activity to speak of during the contest or for that matter before or after it either. So far I have worked 8 states on 1296 with my 15 watts and Yagi antennas.

It would be advisable to keep watch on the 2 meter and above bands throughout October as there will still be some good openings.

* * *

FLASH! OFFICIAL BULLETIN NR 444 FROM ARRL HEADQUARTERS NEWINGTON, CT. SEPTEMBER 20, 1973, TO ALL RADIO AMATEURS BT FCC HAS EXTENDED THE TIME FOR FILING COMMENTS AND REPLIES IN DOCKET 19759, CLASS E CITIZENS BAND, FOR 30 DAYS. AR

A BANANA ON 1296?
By Tony, K1SFF/3

It happened during the Pack Rat 1296 Dxpedition to Delaware last May. We were operating from the Wilmington 2 Meter Repeater tower which is in the northern end of Delaware just about spitting distance from the Pennsylvania state line. Earlier we muscled the Pack Rat 100 watt transmitter built by Mario, K3UJD up 100 feet and installed it next to the repeater inside the fire-tower-like shack. The four-foot dish loaned to us by WA2VTR was mounted on a tripod sitting on the catwalk which surrounds the shack and was pointed north-east. Doug, WA2LTM, after some trial-and-error found a combination of attenuator pads and odd lengths of co-ax which allowed us to use two receiving pre-amps ahead of K2UVH's converter without oscillation.

We had then settled down to the steady business of calling CQ and tuning the 1206 band. Harry, WA3NGK was spreading out the 2 meter AM liaison station on the shack floor. Bill, KLJDY/3 was precariously balancing himself on the ladder up over the shack in the act of installing a second dish antenna which we could point south and west. Jack, K3GUW (our host) was placing an order for hamburgers, french fries and milk shakes with WA3USA/mobile for delivery to our hungry crew. I had just finished a long CQ using Mario's "contest-special" code wheel which sends CQ de W3CCX/3 continuously and was starting to tune the band when I immediately came upon a very loud CW signal which was drifting, churping, FMing and rapidly fading in and out. "What the ---- is this?" I asked. The signal disappeared and then reappeared on a slightly different frequency. "It must be cross-mod from the local FM broadcast station," said Harry. But now it's gone again - maybe it's the FM station beating with one of the repeater oscillators", offered KLJDY. The signal disappeared when the antenna was disconnected and peaked up on a northeast antenna heading.

The mysterious signal went away and we worked K4QIF in Norfolk, Virginia and K1PXE in Milford, Connecticut to add to our list of "local" stations worked which included WA2LTM (K3UYH op), K2UYH, W3DWJ and K2JNG.

The mysterious signal was heard several more time and always just as we stood by after a long CQ. Was someone trying to interfere with us? "What's wrong?" asked Jack, K3GUW who was now describing our 1296 operation to some of the Wilmington 2 meter repeater regulars using the direct input in the shack. "We've got a banana on 1296," someone quipped. The place broke up. Jack passed the story on to all the repeater listeners that the self-named "banana" who had been maliciously interfering with the Richboro, Pa. and Wilmington, Del. 2 meter repeaters had somehow QSY'd up to 1296 and was giving us fits.

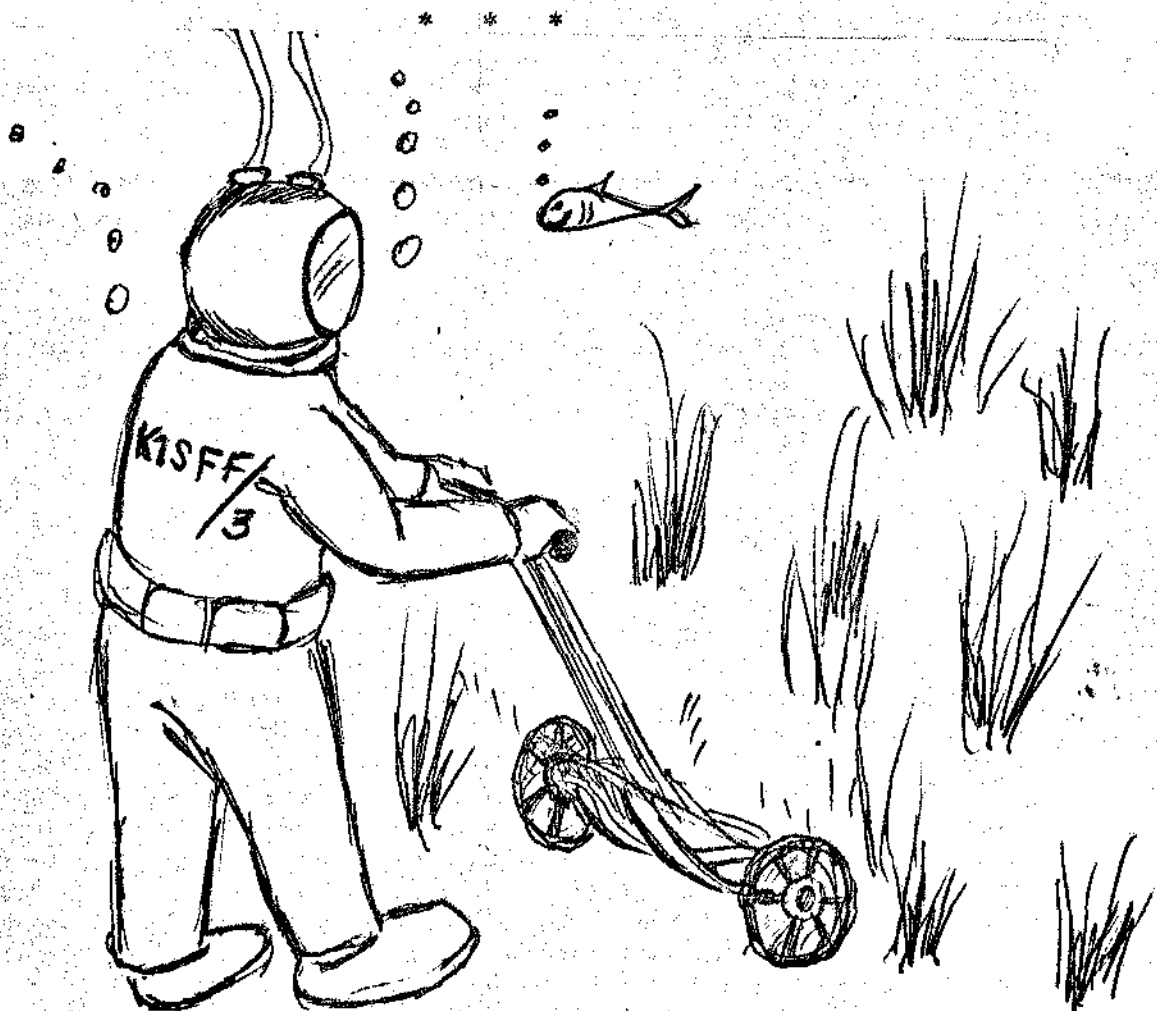
Some time later, after working W2OMS, the "banana" signal was again heard. This time it was steady and centered on one frequency warbling back and forth like FM and very loud. Opening the passband and tuning off a little to one side we copied someone calling us on FM. "W3CCX slant 3, W3CCX slant 3, W3CCX portable 3 this is K3BPP, King 3 Baker Peter Peter - do you copy?", We went back on CW "K3BPP de W3CCX/3 FB SIG IN DEL 5x9 BK. " "Fantastic." "Oh Wow!" "Guess I finally got this amplifier tuned up - been twiddling knobs and hooking up clip leads and bending sheet metal capacitor tabs for about three hours now and it works!" "I've got bits and pieces of this rig strung out all over the cellar - if I'm not careful, I'll get zapped by the high voltage when I go to standby, since the receiver is sitting in the middle of the accumulation of junk." "Wait a minute, something's oscillating in the audio department - bang. bang. warble. scratch. -- there that's probably better." "How copy now." "W3CCX/3 this is K3BPP, ever." K3BPP this is W3CCX/3 - OK Walt, real fine.

"Your audio did improve after you diddled the modulator - it's a very strong signal and we're glad you got it hooked up in time to work us here in Delaware." "73 Walt, we have a sked. coming up." "K3BPP from W3CCX portable 3." W3CCX/3 from K3BPP, OK I'm copying you on fone OK." "Before you go, tell us what time it is for the log. Don forgot to wind his watch - over." "Fine business, Walt, that watchmaker friend of ours is incorrigible; tell him it's 9:30 P.M." "So long, K3BPP from W3CCX/3 clear and QRZ."

The 1296 "banana" was now identified as none other than our Pack Rat Club President K3BPP, who never does anything until the last minute. Walt would never think of building a 1296 amplifier until three hours before he wanted to use it to make a DX contact. This time as always in the past, Walt came up with a potent signal from a highly "experimental" amplifier.

We went on that evening to work W2OTA, K3IUV and K1SFF/3 (W3CJU, K3BPP ops) to make a grand total of 10 stations in 5 states who had now worked the state of Dealware on 1296 MHz.

The success of the Delaware DXpedition is due to all those who contributed their time and equipment. A very special thanks is due Jack, K3GUW who provided us with a really first rate location.





WEEDING A LAKE BOTTOM W42WYE

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SWAP SHOP

For Sale: RCA-ID50 Complete with accessories. 52.525 MHZ simplex and 52.76 MHZ repeater. 50 watts output. \$150.00. Dumont 5820 with accessories on 52.525 MHZ simplex & 52.76 MHZ repeater. 40 watts output. \$90.00. Motorola 80D -Base station configuration with AC power supply but no interconnect cables. No crystals or accessories. \$35.00.
Contact: K3JJ0, 2957 Goentner Road Willow Grove, Pa. 19090 215 OL 9-9504

For Sale: Onan-Gasoline Electric Generator, indicator unit, electric start 120V A.C. 42 amp. 5000 watts. \$450.00 - \$350.00 cash.

Info: WA2EMR, Bob Moore, Sr.
Rt. 130 - Chester Avenue
Riverside, N.J. 08075
Unit belongs to WA3QJB

FOR SALE: FROM Estate of K3MEH -- Hammarlund HQ110A Receiver (goes to 6 meters) with AMECO 2 meter converter/power supply, and speaker unit. \$80.00. Complete 2 meter (25 watt) AM xmtr with D-104 mike. Complete 6 meter (50 watt) AM xmtr with Astatic mike. Complete 10 meter ARC-5 type xmtr. VFO and power supply for all three xmtrs. Interconnecting cables. All units metered. Midland SWR bridge. All in good condition, \$75.00 as a package for a professional looking station. Special price for HQ110A and xmtrs. \$145.00. Real bargain. 11 element 2 meter beam, 2 element 10-meter beam - CDR Rotator and control box, RF and control cables. Easy to remove from roof. \$10.00 takes antenna system.
Contact: W3CL 215-TU 7-5052 or K3GAS, 215-ME 5-1078.

Wanted: AKIBA HEBREW ACADEMY RADIO CLUB looking for amateur equipment to set up a radio station. Any type equipment would be appreciated. HF SSB unit preferred. Limited budget.

Contact: Arieh Karger, 4X4JH
Home Phone, 215-328-0848
Office, 215-962-1443

Wanted: Spring Garden College in Phila. sponsors the Spring Garden Amateur Radio Club, K3KRV. Looking for equipment on HF or VHF, test equipment, spare parts, old mags, keys, mike, etc. Will make skeds on 50.5 MHZ at 11:15 a.m. They now have a sixer with a halo, will send club QSL.

Contact: Joe Conway, WA30TI
236 Park Avenue
Rockledge, Pa. 19111



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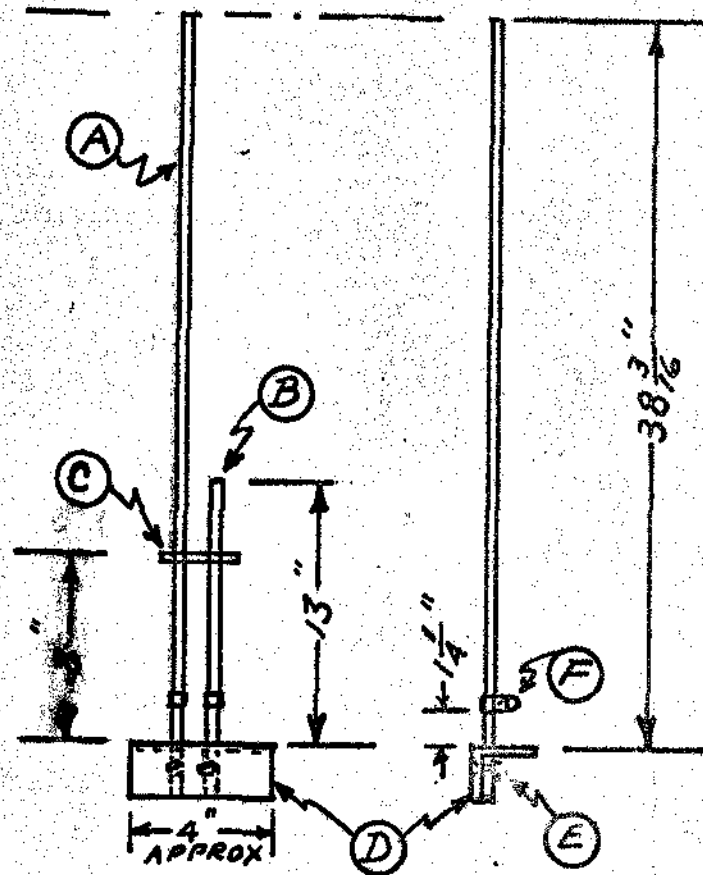
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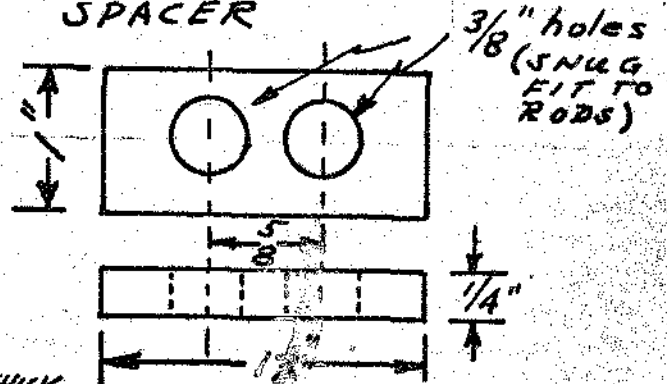
8-11-75

220 MHz J POLE ANTENNA



DETAILS

- (A) 3/8" DIA ALUM ROD OR TUBE LENGTH IS 38 3/16" ABOVE TOP FACE OF (D) ALLOW ENOUGH EXTRA LENGTH TO EXTEND TO BOTTOM EDGE OF (D)
- (B) 3/8" OD ALUM ROD OR TUBE LENGTH 13" ABOVE TOP FACE OF (D) ALLOW EXTRA LENGTH TO REACH BOTTOM EDGE OF (D).
- (C) 1/4" THICK PLEXIGLASS SPACER



- (D) ALUM ANGLE 4" x 2" x 2" x 1/8" THICK DRILL (2) 3/8" HOLES 5/8" BETWEEN CENTERS WITH EDGE OF HOLES FLUSH WITH THE VERTICAL PART OF THE ANGLE. DRILL THROUGH SIDE OF ANGLE AS SHOWN, COUNTER SINK AND USE 6-32 FH SCREWS AS SHOWN AT (E). THERE ARE MANY WAYS TO MOUNT THE RODS - USE YOUR IMAGINATION - JUST KEEP THE DIMENSIONS AS SHOWN FROM THE TOP FACE OF (D) UP.
- (E) - THESE ARE 6-32 FH STEEL OR ALUM SCREWS PLUS 6-32 NUTS (2 EACH REQUIRED)
- (F) (2) REQUIRED - 1/2" WIDE OLD TINNED COPPER STRAP-WRAP AROUND THE ANT RODS - CLAMP WITH 6-32 1/4" RH MACHINE SCREWS AND NUTS. DRILL 1/8" HOLE IN EXTENSION TAB TO TAKE CENTER CONDUCTOR OF COAX AND THE BRAID. CONNECT THE 50-Ω COAX (CENTER CONDUCTOR) TO LONG ROD TAB AND THE BRAID TO THE COPPER TAB ON THE SHORT ROD.

THIS ANT IS DESIGNED FOR USE CENTERED AT 223 MHz. IT MEASURED LESS THAN 1.1 TO 1 VSWR AND GETS FULL QUIETING INTO A REPEATER 30 MILES AWAY WITH 8 WATTS FROM THE TRANSMITTER

VISITORS AT SEPTEMBER 19TH
MEETING

W3WMB, Paul WA3QNS, Joe W3CIL, Elmer

TID BITS

- Rich, K3ACR is the Chairman for January VHF Sweepstakes Contest. You will be hearing from him soon.
- Do you wish to serve on the refreshments committee? Please see Joe Rushton for an appointment.
- Joe, W3YXF, hosted the 3rd Outdoor Meeting of the year on the evening of September 19th. This was the famous White Elephant Sale event and Doc says we made \$50,00. It was so cool that K3UJD wore an Arctic Parka while running the raffle. Rich, K3ACR won the 2 meter ringo antenna. Hot coffee was the favorite beverage of the evening.
- The new Pack-Rat 220 MHZ repeater was shown by WA3AXV and demonstrated its operation to a mobile FM21 unit installed in the GTO of W3CL.
- Doc, K3GAS was appointed Chairman of Registrations for the 1974 Annual Meeting of the Philadelphia County Dental Society.
- Ron, K3ZKO, Ron, WA3AXV hit the press with an FB story on ATV by Thomas Hine in the Philadelphia Inquirer of September 21st. Doc, K3GAS didn't appear on the Kinescope, but was quoted through a test pattern. Keep up the good work Captains Video.
- We wish to thank Joe Simmons of the Physics Department, LaSalle College for the FB used equipment contributions to the club.
- Dick Baldwin of ARRL Headquarters will speak on the upcoming frequency conference at a meeting in Arnold Auditorium, Bell Labs, Murray Hill, New Jersey on October 9, 1973, at 8:30 P.M. Visitors invited.
- Our condolences to the family and the Mobile Sixers on the recent death of K3NUB, John G. Calter.

AMSAT OSCAR B SPACECRAFT

A-O-B (to be known as OSCAR 7 after launch) is an international effort now involving four nations. The A-O-B systems developed by each nation are as follows:

Germany: Euro-Oscar Repeater, Spacecraft Structure, Battery Charge Regulator, 28V Power Regulator, Antenna System - DJ4ZC, DJ5KQ

Australia: Two Redundant Command Decoders, RTTY Telemetry Encoder - VK3ZPI

Canada: 435.1 MHZ Beacon Transmitter - VE3QB

United States: 2M/10M Repeater, Morse Code Telemetry Encoder, Experiment Control Logic, Instrumentation Switching Regulator, Solar Panels, Battery - K3JTE, W3GEY, WA4DGU, W3DTN, Codestore - W5CAY, S-Band Beacon Transmitter - K6HIJ

(Thanks to Jack Power, W2AXU on this advanced information)

THE WAY IT GOES

By Julian Jablin, W9IWI
From "Circuit Board" (York Radio Club, Elmhurst, Ill.)

The urge to create must be pretty strong in most people. What brings this to mind is a mimeographed magazine which somehow found itself in my mailbox. Called the "Back Fence Reporter" its stated purpose is to publish stories, articles, poems etc. by writers who can't get printed anywhere else.

I know a lawyer, a Ph.D. who teaches in college. When the XYL and I first visited his home, he and I did not discuss the weighty problems of the Administration, or local village politics. . . he took me out to his garage, where he has a complete workshop set up for building RC model planes. And a secretary in my office gives the impression of having nothing in her pretty little head but how she can spend her husband's salary; she collects old pictures frames, paints them, and arranges collages of "found objects" (shells, buttons, all kinds of trash) within frames, making attractive, decorative pieces.

Throw a rock and you'll hit an amateur photographer, like a dentist I know, or an amateur

painter, like an executive I once met, or a furniture refinisher, like my next-door neighbor. How many needle-point shops have opened recently to help meet the creative urge in suburban women?

The sociologists will probably analyze this (as they analyze everything) and determine that this ambition to make things with one's hands is a reaction to the growing mechanization of our times, or the un-fulfilling nature of the work most of us do. Looking at our forefathers of a few generations ago, the social scientists decided that they made objects ornamental as well as useful to put some beauty into the drab lives of the times. OK -- they are entitled to their opinions.

For a lot of us -- those of us who read "Circuit Board" and have funny combinations of letters and numbers after our names, for example -- the urge for creativity has an outlet in little bits of ham gear. Yes, the move toward store-bought transceivers which are too complicated for the average ham to make has stifled the outlet a bit. I have written as bitterly as anyone else about the "appliance operators." But it is encouraging to see odd pieces of accessory gear built by hand, from scratch or from kits, and the constructors of complete transmitters and receivers are not as few and far between as one might expect.

It's encouraging, but it is to be expected.

* * *

TID BIT

Congrats to the Stan Smiths (K3IFM). Their harmonic Mathew, age 9, received his novice ticket September 26th. Call - WN3VJU. The Pack-Rats need a "mousecot".

* * *

BOOK REVIEW VIA ARNS

From Smoke Signals, By Jim Romelfanger, K9KPK

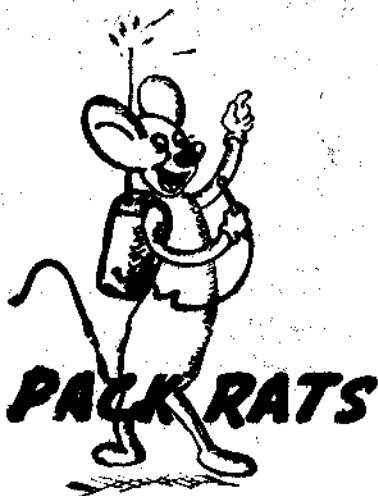
A book has appeared that is an absolute must for anyone who plans to use or works with TTL integrated circuits. It is the "The TTL, Data Book," published by Texas Instruments. The book lists over 320 MSI and SSI functions in several lines; series 54 or 74 Schottky and low power Schottky; 54174 high speed, standard and low power; series 29000/29300; beam lead devices; radiation tolerant circuits; MACH IV HiRel procurement specs; JAN IC data and a cross reference guide.

The book has data on every TI TTL product, including 140 MSI (medium scale integration) functions, 16 memory functions and more than 100 Schottky clamped circuits. The book is 640 pages, hardbound. It is indexed by both type number and function and includes helpful cross-reference guides and a glossary of terms.

The TTL Data Book from Texas Instruments is priced at just \$3.95 from TI, P.O. Box 3640, M/S 84, Dallas, Texas 75221.

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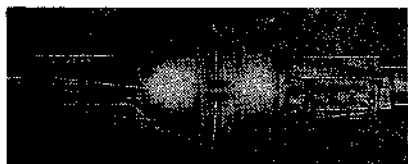
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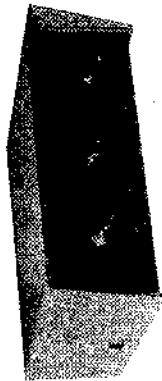
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