

PACK RATS



PACK RATS

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

CHEESE BITS



MT. AIRY VHF RADIO CLUB, INC., PHILADELPHIA, PA. (ARNS)
(50.2, 145.2, 221.4, 432.03, 1296.3 MHz) Repeater 222.98/224.58
AFFILIATED CLUB: AMERICAN RADIO RELAY LEAGUE
MEETINGS: Third Thursday of each Month 8:00 P.M.
Southampton Free Library, 947 E. Street Rd.
Southampton, Pennsylvania

VOLUME XVIII

JUNE 1976

NUMBER 6

THE PREZ SEZ ...

June 12-13 are the dates for the ARRL June VHF QSO Party contest. Bill Olsen, W3HQT and his committee have been going all out to make all the necessary logistic arrangements to assure a successful effort. We really need your help at Hilltown this year and I hope to see a large turnout. I really think the club has a realistic chance of winning this year. It is also interesting to note that the use of repeater channels for contest contacts has been banned. This means that you cannot use a repeater channel backwards even if the repeater is turned off. Simplex channel contacts are still permitted. I am proud to say that the Pack Rats never engaged in this practice and praise the ARRL for making this much needed rule change.

June is also election month and the nominating committee has already presented a list of candidates. Nominations will of course be open from the floor. (see below)

In stepping down as President of your club, let me say it has been an honor and a privilege to have held this position for the past two years. I will continue to be active in the club in whatever activity or capacity required. I feel the Mt. Airy VHF Radio Club is one of the truly outstanding organizations in Amateur Radio today. The club has somehow managed to strike the delicate balance between progress and tradition; not afraid to advance as societies attitudes and technology change, but on the other hand never losing sight of the ideals and visions of the clubs founding fathers. Maintaining this balance assures continued excellence.

If I may make a few parting thoughts to the new officers:

We find in all areas of life those individuals who are constant critics. these people always know the best way to accomplish any task, usually with wide ranging expertise. However, it is also usually true that these people seldom do anything constructive to preserve or advance the organization to which they allege to be a member. They feel secure aloof from the mainstream and seldom will accept any responsible position that would permit the implimentation of their ideas. Fortunately I have encountered only a minute number of these individuals in the Pack Rat organization. To the new officers in the club I say be aware of these individuals but do not fear them. They seldom do any real harm unless you over react to their constant torment. Listen to their rhetoric for then you will know their intentions; not allowing them to swerve your course.

Finally, thanks to all those who work so hard year in and year out to accomplish many of the activities and perquisities that we often take for granted. These people know who they are.

73, Ron, WA3AXV

The following have been nominated: Pres.-Lee, K3MXM; V. Pres.- Tony, W3HMU
Rec.Secy. Danny, WA3NFV, Cor. Secy. Harry, WA3NGK
Treas. Doc, K3GAS. Director-Dick, K3IGX, Ric, WA3UDS

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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WE OPERATE ON AN EXCHANGE BASIS WITH OTHER PUBLICATIONS AND ANYTHING THAT IS PRINTED IN CHEESE BITS MAY BE REPRINTED, UNLESS SO STATED, AS LONG AS THE PROPER CREDIT IS GIVEN.

SWAP SHOP ITEMS - NO CHARGE

DEADLINE FOR ARTICLES IS THE GENERAL MEMBERSHIP MEETING.

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TYPIST:

WA3TEM, MARSHA STEIN

MONDAY NIGHT NETS: NET CONTROL

145.2 - 7:30 P.M. W2EIF
50.2 - 8:30 P.M. W3CL
221.4/224.58 9:00 P.M. K3GAS
432.03 - 9:30 P.M. K3IUV
1296.3 - 10:00 P.M. W3HMU

FRIDAY NIGHT ATV NET: NET CONTROL

439.250 - 7:00 P.M. WA3AXV

PACK RAT REPEATER - WR3ACD-CHURCHVILLE, PA. 222.98/224.58

OFFICERS: 1975 - 1976

PRESIDENT: WA3AXV, RON WHITSEL
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CORRES. SEC.: WA3NGK, HARRY BROWN
REC. SEC.: WA3DJF, CARL MATTIACE
TREASURER: K3GAS, DOC CUTLER

DIRECTORS:

W3FQD, DICK HUNTZINGER (EX-OFFICIO)
K3ACR, RICH PATTISON
W3HMU, TONY SOUSA
W3HQT, BILL OLSON
WA3JUF, DAVE MASCARO

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

TRUSTEE OF CLUB CALLS: W3CCX - WR3ACD:

W3SAO, FRANCIS BRICK
821 W. LINDLEY AVENUE
PHILADELPHIA, PA. 19141
215 DA 4-7524

AWARDS CHAIRMAN:

W2EIF, JOSEPH KILGORE
#5 SUNNYBROOK COURT
STRATFORD, NEW JERSEY 08084
609 - 783-9478

CLUB HISTORIAN:

W3SAO, FRANCIS BRICK

Advertisement for Pennsylvania Institute of Technology featuring a logo, contact information for Paul D. Mercado (FCC Amateur/Instructor), and Lafayette Radio Electronics (Associate Store) with address 531 Easton Road, Horsham, Pa. 19044. Includes a stylized atom logo and the name Ed Clark.

CALENDAR OF COMING EVENTS
Syllabus by Lee, K3MXM

JUNE

- 1 BARC Meeting 7 P.M. Casa Conti, Supper 6 PM Open Meeting to all who can and want to help.
- 2 June VHF QSO Party Contest Planning Committee and Band Captains - Meet at the QTH of W3ZD, Dave Zimmerman, 8 P.M.
- 5 Delaware Valley Chapter QCWA Dinner meeting, Buck Hotel, Feasterville, Pa.
- 6 Penn Central Hamfest, Township Fairgrounds 11 Miles south of Route 80 on Route 15, Winfield, Pa.
- 6 Manassas, Virginia Hamfest - Prince William County Fairgrounds, Rt. 234 Manassas, Virginia. A Big One.
- 6 Tri County Radio Association Hamfest, Nick's Grove, 318 Williams St, Piscataway, New Jersey.
- 9 Board of Directors Meeting, QTH, WA2MWB, Carl Barrish, Windsor Towers, Cherry Hill, N.J. (Kyoto Bldg. Apt. 11C... if lost, phone - 609-667-3560.
- 11 Set up preparations at Hilltown, Pa. Afternoon and evening. Enjoy supper with the gang at the famous "Inn".
- 12/13 June VHF QSO Party, Hilltown, Pa. Bill Olsen, W3HQT, Chairman. Come on out, help the crew set up, get organized and see the portable EME Moonbounce operation field test that will be going on to Barranquilla, Colombia.
- 13 Penn Wireless Club Picnic - Lahaska, Pa.
- 13 Maryland Mobileers Hamfest, Anne Arundel Community College, Arnold, Maryland.
- 17 For you History buffs, Today is the anniversary of the Battle of Bunker Hill 1775
- 17 General Club Meeting, Southampton Free Library, Street Road, Southampton, Pa. Election Nite, Special Report on the W3CCX/HK EME Expedition. Doc's Silent Auction, The Mario Raffle, Refreshments. Open meeting to one and all!
- 21 Summer Officially Begins!
- 25/26 ARRL Field Day

JULY

- 3/4 VHF Space Net, The start of four weekends.(see May issue Cheese-Bits for details)
- 4 Happy 200th Birthday United States of America.
- 5 Harrisburg ARC Hamfest, Indian Echo Park, near Hershey and Hummelstown, off Rt. 322.
- 15 General Club Meeting, 1st outdoor meeting, white elephant sale. QTH, Zimmerman's Gulch. Start cleaning out your basement for this fun filled evening.
- 16-18 ARRL National Convention, Denver, Colorado.
- 18 Lehigh Valley Hamfest
- 18 WR3ABE - 6 meter Repeater Picnic, FLOURTOWN, Pa.

CALENDAR OF COMING EVENTS CONTINUED

- July 23-25 ARRL ATLANTIC DIVISION CONVENTION, BEN FRANKLIN HOTEL, Phila., Pa.
- July 31- Aug.1 ROANOKE DIVISION CONVENTION, Norfolk, Va. (Details in May Cheese-Bits)
- AUGUST 8 PACK RAT PICNIC
- AUGUST 11 Winchester Virginia Hamfest
- AUGUST 15 Delmarva Hamfest, Wilmington, Delaware
- AUGUST 28-29 Personal Computing Convention, Shelburne Hotel, Atlantic City, N.J.
New Growth Technique in Ham Radio
- SEPT. 12 South Jersey Radio Club Hamfest, Mollia Farms, Malaga, N.J.
- SEPT. 11/12 September VHF QSO Party, a good tune-up for the big Contest in January.
- OCTOBER 3 HAMARAMA

ARRL is now growing at the rate of 3 to 4 thousand new members each month. They are sold out on many novice publications. As of March 1st had a count of 125,433 members. de HR

For you catalogue collectors - Edmunds Scientific has a new one full of electronic and other scientific goodies - request catalogue DA from Edmunds 300 Edscope Bldg. Barrington, N.J. 08007

Six Meters is alive and growing. A couple of 6 and 2 meter nets you might want to monitor or check in on.

Tidewater Sideband Net	50.150	8PM Tuesdays
2 meters	145.025	9PM Tuesdays
North Carolina SSB Net	50.120	9PM Thursdays
East Coast 2 meter SSB Net	145.025	10AM Sundays
East Coast 6 meter SSB Net	50.125	11AM Sundays

If you sell it, give it away or lose it, sure as heck, you will need it next week. Just repeating, I wonder who said this first...

Hey, we don't want to lose you from the club, how about sending your dues in.. GQJ, IOE, KIR, NMN, OPC, ISV...

- - -
MAY MOONBOUNCE WEEKEND ACTIVITIES
de W3HMU

The W3CCX/3 432 Mhz EME station took part in several skeds on the May 7th and 8th weekend. A sked with LX1DB netted us with a new country worked on EME. LX1DB was worked in four exchange (10 MINUTES) and could easily have been worked in 4 minutes! This was in stark contrast to last month's experience when we called him for 2 hours straight in answer to his CQ's with no response (one way bounce?). We had a one way with ZE5JJ hearing him "M" copy right away on a special sked. But, Peter evidently never heard us. All our other skeds were kept with nothing heard on this end. We did not keep our sked with Aki, JALVDU because the crew was too tired to stay up that late.

I5MSH was worked twice on CQ's. Once on Friday night (our CQ) and once on Saturday evening (his CQ). The Saturday evening operator was Bolmar HK1AMW/WA3AOP. This activity was squeezed in between working on the 16 yagi portable array. This yagi array was mounted on its pole Friday evening. On Sat. afternoon and evening the counter balance and the various cables and ropes were fitted and adjusted. Echoes from the 20 ft. W3CCX dish system were monitored on the yagi array with FB results. The yagi array is rotatable in azimuth, elevation and polarity! It knocks down into two packing cases with the longest piece measuring only 6 feet. The complete Colombian DX-pedition station will be erected at the Pack Rat Hilltown, Pa. site and operated during the June-ARRL VHF QSO Party. This will serve as a dress rehearsal for the August 1 operation in Colombia.

Congratulations to Glen Weisman, Jr Op de K3JJZ who passed his Novice code test at PennARC under the auspices of WA3OVH, Pete Shavney.

NEW PRODUCTS OF INTEREST TO HAMS

By Lynn, W3NSI

1. Quick Release Antenna Mount: South Com Inc. is producing a device which allows the mobile operator to not only remove the whip antenna but also the trunk lip mount in a few seconds, to avoid advertising the fact that a 2 way radio is installed. Some hams have had their cars broken into because the mount was showing, although no rig was installed at the time. This gives all the advantages of the magnetic mount, in removing the evidence of ham operation, plus the strength of the trunk mounting.
Price \$4.95 + .50 postage and handling. P.O. Box 11212 Ft. Worth, Texas 76109
2. Radio-Controlled Clock: Radio time Service Inc has a very nice clock unit available which has some interesting features. It is a quartz crystal movement with either a white or black round face. Inside each clock is a receiver tuned to WWV time signals. The clock hears the signal coming through and corrects for any deviation of the second hand. Battery stand-by power is also built in, so power failures have no affect on clock operation. Price \$187.50 P.O. Box 6613 Tucson, Ariz. 85733
3. Direct Reading Capacitance Meter: This direct reading C-Meter can be used to measure cap. values from a few Pf to 1 Mfd in four ranges. Unit is portable and a 9V battery is reported to operate the unit for a year. Values are read on the linear scale of a 2" meter. For those who have never used a direct reading C meter, you don't know what you have been missing. This unit makes it possible to quickly match values or find a special value without having to crank a dial back and forth with each test, as with the Heathkit cap. tester. Price \$39.95 Weber Electronics 1 Elmcrest Terrace, Norwalk, Ct. 06850

- - -
PRESS RELEASE

The Mount Airy VHF Radio Club (The Pack Rats) is pleased to announce that it has received permission from the Colombian Minister of Communications to conduct a Moon Bounce experiment from South America on 432 Mhz.

As of this date, no South American continent stations have been available for 432 Mhz EME work. The station will be located near Barranquilla and will be operated by W3HQT, William Olson, K3BPP, Walter Bohlman and W3HMU, Anthony Souza. Arrangements for the trip are being made by WB3AOP. Bolmar Aquilar, K3JJZ, Elliott Weisman, WB3AFY, Socrates Martinez.

Colombian liason is being handled by Dr. Atenogenes Blanco HK1BYM who has coordinated a group of radio amateurs in Colombia representing all of the active radio clubs in Barranquilla (HK1RCB, HK1EE, HK1LR). Dr. Blanco's address is Apartado Aereo 15-020, Baranquilla, Colombia, South America.

Operation will be on 432.040 Mhz using a portable 16 yagi array especially constructed for this project. Liason during the South American operation will be maintained with Pack Rat stations stateside. Those wishing to convey information to the expeditionary force should contact: W3KKJ, Ernie Kenas or W3TNP, Bertha Kenas, 2823 Old Welsh Rd. Willow Grove, Pa. 19090 215-659-3485. Communications with the expeditionary force in Colombia may be obtained via Dr. Blanco, address listed below.

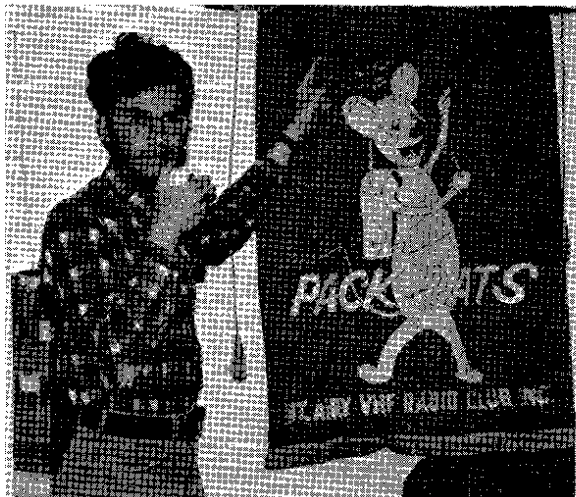
It is our intent to work as many of the 432 Moon Bounce stations as possible from this location, and schedules have been made with all of the 432 EME stations known to be active at this time. Anyone requiring additional information with regard to the expedition may contact the writer.

Elliott T. Weisman, K3JJZ

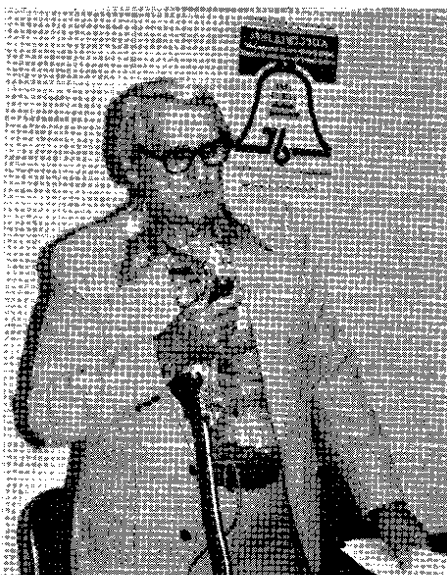
NOTE: Operational dates from July 27th. Heavy schedules centered about August 1st.
A fine article about the expedition appeared in the Phila. Sunday Bulletin on May 23, 1976.

THANK YOU FROM BERT KENAS, W3TNP..." A note of thanks with much appreciation to all the Pack Rats who donated items for the PennJersey YL clubs' flea market sale."

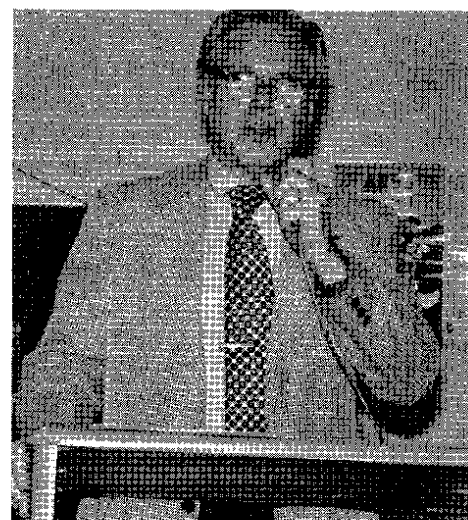
ARRL NITE 1976



NEW PACK RAT - EARL WA3ZRE



CONNIE-MAC W3SW



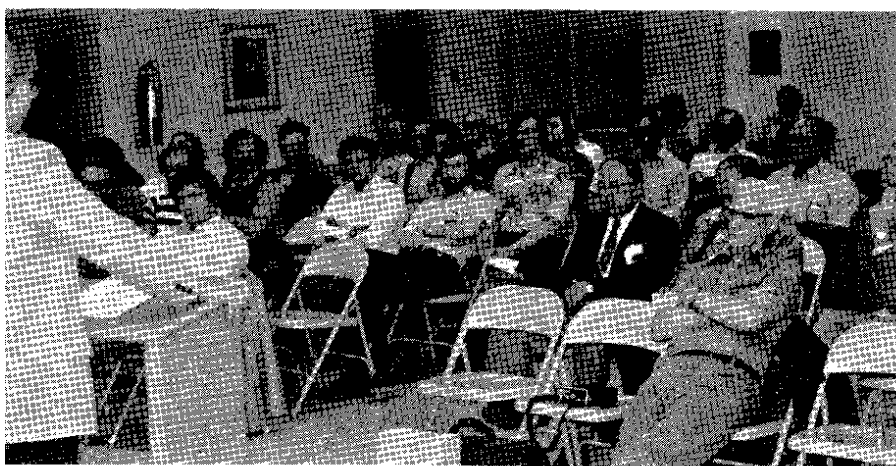
BILL TYNUM W3KMV

Pack Rat ARRL night 1976 was well attended, notwithstanding a heavy rain storm, with many visitors present representing clubs in the Delaware Valley.

The evenings program was kicked off with a talk on league and FCC matters given by the Director of the Atlantic Division, Connie-Mac, W3SW.

Bill Tynum, W3KMV, QST columnist 'The World above 50 Mhz', came up from Maryland to tell us about VHF, past, present and future. He pointed out that there is continuing terrible pressure by commercial and other interests to usurp our VHF/UHF frequencies; better use and occupancy of the bands is one answer. He spoke briefly about the trials and tribulations of a columnist... meeting of deadlines; satisfying all the segments of the VHF community. His talk concluded with a discussion of contests and contest rules which evoked many spirited questions from the floor.

The meeting adjourned to eight dozen Danish and seventy cups of coffee. A list of visitors follows:



A PORTION OF THE CROWD

- W3KMV, Bill Tynum, Silver-Spring, Md.,
- John Gordon, Phila., Pa.
- WB3BYH, Bill, Southampton, Pa.
- K3IQO, Stan Umin, Phila., Pa.
- Harry Umin de K3IQO, Phila., Pa.
- WA3TEP, Shel Rabin, Cornwell Hts., Pa.
- Merv Gerstein, Cornwell Hts., Pa.
- WA3NHT, Mel Richman, Phila., Pa.
- K3ZIG, Howard Bicking, Warminster, Pa.
- WA3HWZ, Bob Strickland, Langhorne, Pa.
- W3SW, Connie-Mac, Potomac, Md.
- W3ZO, Boyd, Parkesburg, Pa.
- W2EA, Walt, Haddonfield, N.J.
- W2FYS, Amor, Cherry Hill, N.J.
- W2ORA, Joe Duffin, Haddonfield, N.J.
- WA3DSP, Doug Compton, Glenside, Pa.
- WB3ANV, Jim Hertok, Horsham, Pa.

Voted to membership

WA3ZRE, Earl Garber
8956 Fairfield St.
Phila., Pa. 19152
215-677-1699

Application for membership

WB3AOP, Bolmar Aguilar
8517 Algon Ave.
Phila., Pa. 19148
215-742-2359

Change of address


K3IPM, Stan Smith
3905 Sheffield Ave.
Harrisburg, Pa. 17110
717-238-7060

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



AD
MANAGER
K3MWM

ADS

<p>NE 7-8329</p> <p>GEORGE S. VAN DYKE, JR., P.E. CONSULTING ENGINEER</p> <p>W3HK</p> <p>4607 CONVENT LANE PHILA., PA. 19114</p>	 <p>AMERICAN RADIO RELAY LEAGUE</p> <p>HARRY A. McCONAGHY, W3SW/W3EPC DIRECTOR, ATLANTIC DIVISION</p> <p>8708 FENWAY DRIVE - POTOMAC BETHESDA, MARYLAND, 20034</p>
<p>609-429-0087</p> <p>BRADDOCK ASSOCIATES MANUFACTURERS' REPRESENTATIVE</p> <p>EDWARD BRADDOCK MEMBER: I.E.E.E. W2BAY</p> <p>POST OFFICE BOX 305 HADDONFIELD, N. J. 08033</p>	<p>(215) TU7-5052</p> <p>W3CL</p> <p>HARRY B. STEIN ASSOCIATES COMMUNICATIONS CONSULTANTS</p> <p>HARRY B. STEIN</p> <p>2067 PARKDALE AVE. GLENSIDE, PA. 19038</p>
<p>(609) 424-4258</p> <p>GREENTREE PRESS Business cards - Envelopes QSL cards - Tickets - etc -</p> <p>1980 GREENTREE ROAD CHERRY HILL, N. J. 08003</p>	<p><u>A request from your AD Manager</u></p> <p>PATRONIZE OUR ADVERTISERS Tell them you saw their ad in CHEESEBITS. Leave your QSL card with them. CHEESEBITS is one of the best read local radio club papers. Circulation - 300</p>
<div style="display: flex; align-items: center;"> <div style="background-color: black; color: white; padding: 10px; font-size: 2em; font-weight: bold; margin-right: 10px;">73</div> <div> <p>magazine for radio amateurs</p> <p>PETERBOROUGH, NEW HAMPSHIRE 03458</p> </div> <div style="margin-left: 20px;"> <p>1 year - \$10 2 years - \$17 3 years - \$20</p> </div> </div>	

SWAP SHOP

FOR SALE: R48 220 MHZ Receiver, Pr. New 4-400B, Heath Freq. Scaler-175 MHZ, HW32A-20 Mtr. SSB, Two 16 el. Cushcraft 432 MHZ Col. Antennas, 829B tube, Briggs & Stratton 2HP sideshaft mtr. **CONTACT:** Randy Bynum, WB2SZK, 127 Arbor Mdw. Dr. Siclerville, N.J. 08081 Phone: 609-728-2690

FOR SALE: Philco Ind. TV camera & Vidicon; Power Supply; Control unit; Monitor jeep, Price \$25.00 **CONTACT:** Doc Cutler, K3GAS, 7815 New Second St. Elkins Park, Pa. 19117 Phone: 215- ME5-1078

FOR SALE: HW22A, mike, AC pwr supply- \$105.00 Heath DC pwr supply, \$50.00 Swan 40 mtr. mobile whip, \$25.00 **CONTACT:** Wally Newell, K3JJO Phone: 215-659-9504

WANTED: One or two sections Rohn-6 tower **CONTACT:** Joe Slotnick, W3HYJ, 340 Rockledge Av. Huntingdon Valley, Pa. 19006 Phone: 215-ES9-3115

DO YOU NEED ALUMINUM SHEET, TUBING, ROD, ETC. PREPARE A LIST AND PRESENT IT TO RIC, WA3UDS AT THE NEXT MEETING. RIC STILL LOOKING FOR FIELD DAY QRP VOLUNTEER OPERATORS. (May issue)

OFFICIAL BULLETIN NR 589 FROM ARRL HEADQUARTERS, NEWINGTON, CT MAY 13 1976 TO ALL RADIO AMATEURS BT Now is the time to obtain entry forms for several upcoming ARRL operating activities. For the June VHF QSO Party only log sheets are required, containing space for fifty contacts per sheet. For Field Day dupe sheets are required, one per band/mode, plus a summary sheet. The July Bicentennial Celebration requires special log sheets containing space for 200 contacts, dupe sheets for each mode and a summary. All of these forms are ready for immediate distribution from ARRL when requests are accompanied by a large and stamped envelope. Please indicate the contest form required. AR

Tid Bits

Congrats to W3YXF on his recent retirement; enjoy it Joe. Off the sick list... Sally XYL W3SMK; Ric, WA3UDS of 220 bedpan fame. Tnx for ARRL nite pics. Members that showed at ARRL nite that we have'nt seen in some time...K3HSS, W3CXU, W3SAO, W3SMK. Thank you Walt, K3KUB for your note. Sure would like to see you sometime; eyeball or on air. Condolences to Jane Barrish (XYL WA2MWB) whose father passed away recently. Best wishes to the Stan Smiths (K3IPM) in their new location in Harrisburg, Pa.



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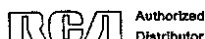
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RTTY ANTHOLOGY (PART 3)
by Ralph Alexander, WA3FOF

POWER SUPPLIES

The start of commercial telegraphy created the problem of supplying power for the loops all over the country. A wet battery using Daniell Cells suited the need. The internal construction of the cell consisted of horizontal copper electrodes (positive terminal) immersed in a solution of copper sulphate with a zinc plate (negative terminal) in dilute sulphuric acid; the solutions not mixing due to the difference in specific gravity of each. This type of cell will not deteriorate and discharge in a closed circuit condition but will do so in an open circuit therefore establishing the closed circuit telegraph loop in use to this day. The output voltage of a Daniell Cell is 1.1 volts requiring 100 cells to make up a battery giving 110 volts... one battery for each loop. The recharging of a cell required the replacement of the zinc electrode which had gone into solution. The system was almost maintenance free except for the zinc replacement.

A new source of power had to be developed when the teleprinter service started since the current loading was too great for these batteries. The solution was the development of a device called a dynamo; the generation of electricity using the mechanical energy from a stationary steam engine driving essentially an electric motor. A teleprinter uses a shunt wound drive motor because it maintains almost constant speed from zero to full load. The load changes from idle to typing condition. The shunt motor had its drawbacks since the voltages varied at different stations including the variations in machines due to mechanical friction. Speed could be compensated when there were only two machines involved in a loop but when more machines were added, synchronization was impossible. A device called a governor was added to overcome this problem. The governor is a centrifugal switch that turns the armature on and off thus regulating the speed of the motor. The other problem required the adjusting all the machines on the loop to the same speed. The speed at each machine was set using a target and a vibrating tuning fork with an add on slit shutter establishing a fairly accurate frequency determining device. The rotating target at the rear of the governor housing, made up of alternating black and white strips of paint, is sighted thru the vibrating shutter under a steady source of light from an incandescent lamp (a fluorescent source will not do since the light itself is actually flickering). The target will appear to remain motionless when the machine is adjusted to the proper speed.

Early electrical generating systems provided direct current, the standard proposed by Thomas Edison. The DC systems were limited in the amount of power supplied and required close spacing of generating plants. In addition it was difficult to 'gang' the machines to maintain the same voltage from each generator. These problems were solved with the development of alternating current machinery by Westinghouse and Tesla and AC soon became the standard of industry. Alternating current could be transformed from lower to higher voltages and vice versa; including the ease of transmission over long distances. A frequency of 400 Hz was proposed because the higher frequency would allow the use of less iron in the construction of generators and transformers. Many like Tesla advocated the generation of 60 Hz geared to the idea of timing devices. In most places in the world other than the United States, 50 Hz is the standard. 400 Hz is used nowadays in aircraft systems.

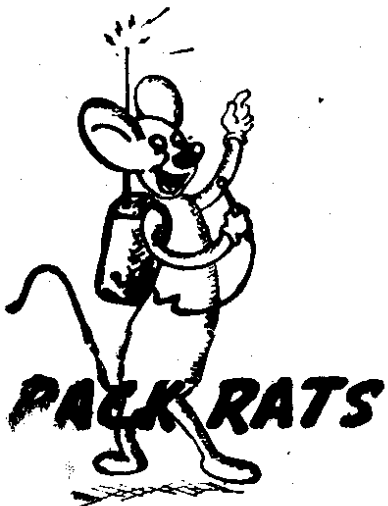
The DC motors used in teleprinters had to be modified when using alternating current and the resulting AC governed motor had to be checked for speed accuracy very often. In addition, this type of motor generates arcing and Radio Frequency Interference. If you obtain a teleprinter with one of these motors you would be wise to replace it with a new type of synchronous motor. This type of motor does not use a governor since the frequency of the power line determines the constant speed regardless of load. Then too, there is no arcing to cause RFI; a very worthwhile improvement. So much on the fundamentals of power supplies for teleprinters.

(continued next month)

NOTICE

IF YOU ARE PLANNING TO TAKE AN FCC AMATEUR CLASS EXAM DURING THE ATLANTIC DIVISION CONVENTION IN PHILADELPHIA ON SATURDAY JULY 24, 1976, YOU MUST MAKE APPLICATION ONE WEEK EARLIER. JOE WELCH, K3CT, THE LOCAL FCC EXAMINER SO ADVISES. THE FCC OFFICE IS LOCATED AT 6TH AND MARKET STREETS, PHILA.....JUST A FEW BLOCKS FROM THE ARRL CONVENTION AT THE BEN FRANKLIN HOTEL.

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