

PACK RATS'



MT. AIRY VHF RADIO CLUB, INC.

CLUB CALL: W3CCX

# CHEESE BITS



MT. AIRY V.H.F. RADIO CLUB, INC., PHILA., PA.  
(50.2, 145.2, 221.4, 432.03 & 1296.3 MC)

AFFILIATED CLUB: AMERICAN RADIO RELAY LEAGUE

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

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VOLUME V

MAY, 1972

NUMBER 5

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## THE PREZ SEZ

Our thanks this month goes to W3HKZ, Ed Kushner, for the excellent program he presented at our April meeting on FM and FM repeaters. Again, the slides and live demonstration by Ed was the greatest, and the club thanks you.

Also, how about that fabulous April issue of Cheese Bits; now at our meetings if you see a guy with a camera, you had better smile as your picture may end up in our paper. The Cheese Bits staff never fails to amaze us and everyone appreciates the time and effort that they put into it. Thanks from all Club members!

Election time is coming up in June with nominations at our May meeting. I have appointed W3CL, Harry, W3KKN, Ernie and K3GAS, Doc to the nominating committee. I know that they will come up with a good slate of candidates. Also, nominations will be taken from the floor, so be sure to attend our May meeting.

Our main purpose at the May meeting will be ARRL nite, and at this writing a month before press deadline, it looks like our old "Pack Rat Friend" W1HDQ, Ed Tilton, will be our guest speaker. We of the Mt. Airy V.H.F. Radio Club have a deep feeling of appreciation and gratitude for Ed's many years of VHF and UHF work. We'll be glad to see him at our Club meeting again.

So gang, see you at the May meeting!

W3CJU, Don

DEADLINE FOR ARTICLES IS THE GENERAL MEMBERSHIP MEETING.

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

MONDAY NIGHT NETS:

145.2 - 7:30 P.M.  
50.2 - 8:30 P.M.  
221.4 - 9:00 P.M.  
432.03 - 9:30 P.M.  
1296.3 - 10:00 P.M.

OFFICERS: 1971 - 1972

PRESIDENT: W3CJU, Don Hampton  
VICE-PRES.: K3BPP, Walt Bohlman  
TREASURER: K3GAS, Doc Cutler  
CORRES. SEC.: W3SAO, Francis Brick  
REC. SEC.: WA3BIV, Carl Barish

DIRECTORS:

K3JJZ, Elliott Weisman  
WA3AXV, Ron Whitsel  
W3FQD, Dick Huntzinger  
WA3LNH, Charles Benavides  
K3UJD, Mario Fontana  
K3CIV, Ralph Hersh  
(Ex-Officio)

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PACK RATS' CHEESE BITS is a Publication of the Mt. Airy VHF Radio Club., Inc., Phila., Pa., and is published monthly.

10 ¢ per copy \$1.00 per yr.

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.

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MEMBERSHIP:

To Retired Status

K3AA - Lewis Clement  
K3HSS - Charles Lustick

Applied for Membership

WA3AQA, Walter F. Zumbach  
302 Elm Avenue  
Glenside, Pa. 19038  
TU 7-9517

\*\*\*\*\*

FRIDAY NIGHT NET (ATV)

439.250 - 19:00 Hrs.

APRIL

- 26 June QSO Party Band Capts and teams meeting at QTH W3KKN
- 30 Potomac Area Hamfest, Westminster, Maryland

MAY

- 6 LADIES NITE - Buck Hotel, Feasterville, Pa.  
16th Annual Dinner. Pay homage and treat the XYL's for her long suffering. A filling prime rib dinner, a good danceable band, a congenial bar, favors, prizes and a special JOHN TATE surprise for all!  
Meet the fellows you have talked with on the air. Get your payment in early to be assured of a place. Watch for a special mailing.
- 10 Board of Directors Meeting at the QTH of W3CJU.
- 13 Pack Rat 1296 DXpedition to Delaware. A group headed by Tony Souza, K1SFF/3 will go to Delaware, set up a 1296 station to put Delaware on the 1296 section map. Clubs and interested individuals please contact Tony for a schedule. The frequency will be 1296.060 plus or minus 10 kc.
- 17 General Club Meeting - West Oak Lane Jewish Community Center, Thouron and Sedgwick Streets, Philadelphia, Pa. 8:00 P.M.  
ARRL NITE  
We expect to have Mr. Ed Tilton in attendance. Also Mr. Harry A. McConaghy "Connie-Mac" - Atlantic Division Director and the SCM'S from Eastern Pa. and Southern N.J.  
This should be an especially interesting evening and we ask all members to ask their friends and members of other clubs throughout the Delaware Valley to come as our guests for the evening.  
Refreshments will be served.  
Also, nominations of officers for the 1972-1973 year will be held.
- 20 ARMED FORCES DAY - Members of Air Force Mars will have 5 stations at local shopping malls to accept free messages to be sent to members of the Armed Forces.

JUNE

- 9-10-11 June QSO Party - Hilltown, Pa. WA3LNH, Chuck Benavides, Chairman

CONTINUED

# JUNE

# 17

## H A M F E S T

WHEN: JUNE 17 - 10:00 AM to 4:00 P.M.

WHERE: AT THE STORE - KASS ELECTRONICS

TALK TO THE LEADING MANUFACTURERS & THEIR REPS.

ADVANCE REGISTRATION BY P.S.L. - MAIL THEM IN & INCLUDE YOUR PHONE - YOU NEED NOT BE PRESENT TO WIN.

BRING YOUR F.M. RIG - P.A.R.A. WILL NET YOUR CRYSTALS - NO CHARGE. ALSO CHECK YOUR DEVIATION!

DOOR PRIZES! REFRESHMENTS!

SPECIAL SPECIALS! KING SIZE TRADES!

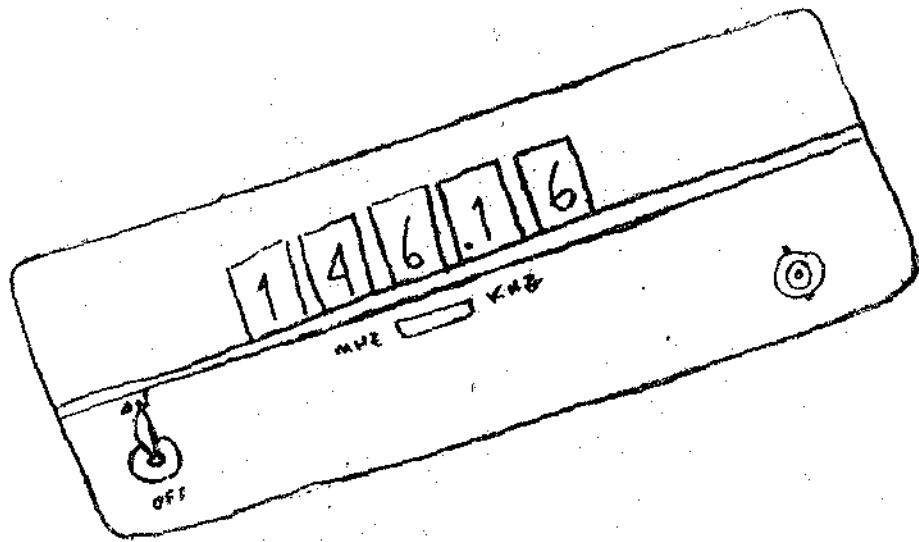
MARK YOUR CALENDAR! DON'T FORGET!

KASS ELECTRONICS - 2502 TOWNSHIP LINE RD.

MON-FRI 9:00-5:30 WED 9:00-9:00

SAT 9:00-2:00

DREXEL HILL, PA, 19026



Now in Stock - Standard &  
Tempo 2mtr. Crystals & A FREQ.  
Counter to net them with.  
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DREXEL HILL, PA, 19026  
449-2300                      528-6120  
(SUBURBS)                      (PHILA)

MON - FRI 9:00 - 5:30      WED 9:00 - 9:00  
SAT 9:00 - 2:00 - 5-

CALANDER OF COMING EVENTS CONTINUED

JUNE 9-10-11

Cont.

We want to make this a united club effort and all members are asked to come out and help the club be a double winner. All bands operating, 6-2-220-432-1296 and 2300 on am, cw and ssb. To be a winner, every member must contact W3CCX/3 on as many bands as possible.

14 Board of Directors Meeting

21 General Club Meeting  
Additional nominations and voting for new officers 1972-1973 season.  
Special Speaker of the evening, Mr. Ed Clegg - who will display and discuss some new equipment and talk on the proposals pending for the 220 band and show his 220 fm equipment.

JULY

19 First Outdoor Meeting - W3ZD, Auction.

AUGUST

13 PACK RAT PICNIC, Flourtown, Pa.  
Some really new events and surprises. Mark this date with a big red ring around the calendar. It will be a really big day and one to remember. Many, many more details to come.

16 Second Outdoor Meeting, QTH, K3IUU, Social and Movie Nite  
Films and slides, XYL's and YL's invited!

SEPTEMBER

20 Third Outdoor Meeting - White Elephant Sale.  
Start cleaning up the shack now for this one.  
Place to be announced.

OCTOBER

1 "HAMARAMA" - The first Pack Rat Hamfest - Jamison, Pa.  
Committees have been appointed, have held their first meeting and plans and projects are underway. A lot of help will be needed.

22 Gaithersburg Hamfest.

ARMED FORCES DAY COMMUNICATION TESTS

May 20, 1972, Military to Amateur Crossband Tests

Listen for NSSAM (Navy Aircraft) 1300 GMT to 2300 GMT from various places on the east coast. Will be operating on:

49.692 mhz AM and listening on 50.1 mhz to 50.4 mhz  
143.820 Mhz AM and listening on 144.1 to 146 Mhz.

A CW receiving competition will feature a message from the Secretary of Defense. Everyone is eligible to participate. A certificate of merit will be issued to each participant who makes a perfect copy. Transmission will be at 25 WPM on the following schedule.

<u>TIME</u>	<u>TRANSMITTING STATION</u>	<u>FREQUENCIES</u>
20 May 1972		MHZ
21/0300 GMT	War - Army	4030,6997.5,14405
20/2300 EDST	NSS - Navy	4012.5, 7350,14385
RATT on the HF bands		

Submitted by W3CL

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VISITORS AT THE APRIL MEETING ARE AS FOLLOWS:

WA3HOW	Bob	Warminster
WA3AQA	Walt	Glenside
W8QNX/3	George	Doylestown
K3KUM	John	Norristown
K3KUL	Joe	King of Prussia
W3WMB	Paul	Lansdale
W3RBU	Charlie	Hatboro
W3RFG	Martha	Hatboro

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AMSAT NEWS De K3IUV

Did you know that our club is an affiliated member of AMSAT (Radio Amateur Satellite Corporation)?? As such, we receive quarterly issues of the AMSAT Newsletter which contains news about amateur satellite equipment. The following information is abstracted from the latest issue.

AMSAT NETS

Three nets are presently held on the following regular schedules:

CONTINUED

AMSAT NETS CONTINUED

3855 khz, 2nd and 4th Mondays at 7:00 P.M. Est. After daylight saving, 9:00 EST. 14,280 khz, 2nd/4th Sunday at 1:00 P.M. Est. After daylight saving, 2:00 EST. 21,280 khz, 2nd/4th Sunday at 2:00 P.M. EST. More check ins are needed for all nets. If you have the gear, why not call in. These nets are used to provide up-to-the-minute information about the activities of AMSAT and launch info. Club station call is W3ZM. The next OSCAR launch is presently scheduled for July and will use hardware designated as A-O-C. Planned items include a two-to-ten meter translator, a 24-channel morse code telemetry encoder, and CODESTORE, which a memory device which can store 15 Morse code words for retransmission on the 29.450 MHZ CW beacon. There may also be a 435.10 MHZ beacon if it is available in time. Projected life of A-O-C is about one year so why not get ready now to use this exciting amateur venture!

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SWAP SHOP

SPRING CLEANING--THE FOLLOWING  
ITEMS ARE FOR SALE \*\*\*\*\*

Philco model FSS-2 Flying spot scanner with built in 10" monitor and 3" scope, includes heavy duty power supply. \$35.00.  
Philco model PX807 rack mounted 5" scope with 10:1 and direct probe. \$15.00.  
BC - 348R receiver with built in ac power supply, "S" meter, noise limiter. Just realigned and checked out. \$35.00.  
Westinghouse 15" color TV set (console model) with a spare color picture tube. Set \$35.00; tube (only with the set) \$5.00.  
Measurements Corp. model 62 VTVM with vhf probe. AC ranges 1,3,10,30 and 100 volts. \$12.00.  
Alliance rotator with control box, \$8.00.  
Boonton model 140A signal generator, covers 10 cycles to 5 megacycles; with built in high level amplifier, \$13.00.  
Hallicrafters model SP-44 panadaptor, 455 khz input, \$30.00.  
19" relay rack, 6' tall, with wheels, \$10.00.  
Electric Guitar, 6 strings, \$20.00.  
Transmitter, 2 meters, 4X150, 200 watts, am and cw. \$35.00.  
Transformers, large assortment; what do you need?? Priced by size

Tubes, large assortment of most types. Priced to move quickly. What do you need??  
ALL of the above equipment is OPERATING! Have manuals/ schematics for all the commercial equipment. Priced right to make room in the basement.  
CONTACT:

K3IUV, Bert Soltoff  
961 Warfield Lane  
Huntingdon Valley, Pa.  
215-947-4483

\*\*\*\*\*  
FOR SALE:  
Field day masts: 9 1/2' x 3" o.d. aluminum alloy; extremely strong and rigid. 20 lbs. each. \$9.25 each. Kleinschmidt teletype-writer (KSR), very good condition: \$49.00. Model 14 reperferator, good condition, \$15.00.  
Unused 4CX250K, \$38.00  
Unused 4CX300A, \$26.00  
Unused 4X150A, \$17.00  
Aircraft emergency horn, 28V at 5.5A (loud!) originally \$200.00; unused, \$35.00.

CONTACT:  
Jim Talens, K3MNJ  
RA 5-2373



NEW PRODUCTS OF INTEREST TO HAMS

By Lyn, W3NSI

1. VHF Receiver - 135 Mc--250 Mc FM  
The Vanguard model RMR 250-11 receiver can be tuned to any 4 Mc segment, then switched between 11 crystal controlled channels in this range. Two filters, one crystal (8 pole) and the other ceramic, are used to set the band width to either + - 7 1/2 or 15 Kc, on customer order at time of order. Unit uses Mosfets in the front end and has a sensitivity of .2 - .3 microvolts for 20 Db quieting. Individual trimmers are used on each crystal for exact frequency settings. Size of receiver 6 x 7 x 1 3/8 inches. 196-23 Jamaica Avenue, Hollis N.Y. 11423 \$110.00
2. Heathkit Frequency Counter IB 1101  
This new counter from Heath is an addition to their 15 Mc unit, and does not replace it. However, for \$70.00 more, the extended range to 100 Mc is well worth while, especially to hams interested in 10 and 6 meters. Case size and layout are the same as the \$200.00 15Mc unit. Five digit readout is featured, fiving eight digit capability with range selector. \$270.00.
3. FM Transmitter Receiver Units IC 20 and IC21  
The IC 20 is more or less an updated IC2F Varitronics. Power of 10 Watts out is the same, along with receiver sensitivity. However, one major change is the use of 12 rather than 6 channels plus a switch to be able to select 1 watt or 10 watts output.

The IC21 is an entirely new unit, having 24 channels, built in SWR meter, and transmitter tuning controls on the front panel. Two meters are used, one for SWR/S/RF, and a zero center unit for use as a discriminator meter. Another nice feature is the ability to tune the receiver over a small range for "netting" (RIT). The mic gain control is also located up front. Power is the same as the above. Price IC20 \$300.00 IC21 \$390.00. Information available - Adirondack Radio, 185 West Main Street, Amsterdam, New York 12010.

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"Ye Ole Cheese Bits"

W3HK, George

In years past, Philadelphia County had an up and going AREC. Some were active in Red Cross Disaster work, some ran a lively net each week on 2, 6 and 10 meters. The group met regularly and we were in other events such as parades and exercises.

CONTINUED

"Ye Ole Cheese Bits" Continued

Something has happened. As amateurs we have decided we are not interested in public service. It is so much that way that this year the medical disaster exercise to be held on May 3, 1972, doesn't even include amateurs, BUT it does include CBers.

As Pack Rats, I don't think we should sit by and watch this thing happen. It will be like a cancer and spread all through amateur radio. We could as individuals at least check into the net on Thursday and give those there a boost. We could also get organized with the six meter repeater for emergency work. We could let Woody, Philadelphia County Radio Officer know we are active and ready for any event. Don't let "any event" scare you. If we got organized there would be retirees for day work, school lads for afternoons and the workers for the evenings. The bigger the group the easier it will be to get hlep when it is needed. A small group no matter how sincere or hard they work cannot do it.

So what say lets get with it and do our thing - ARPSC!!!!

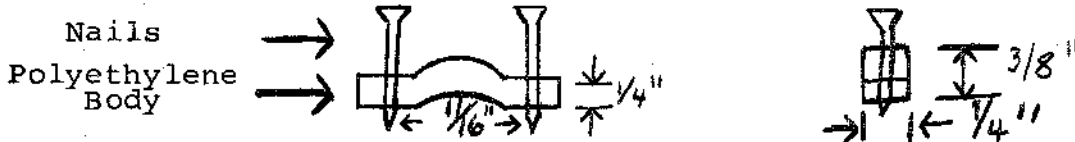
P.S. You don't have to belong to ARRL to be registered in ARPSC!

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TRANSMISSION LINE INSULATORS

W2EIF, Joe

I have been working on some new 432 Mhz beams which are designed to use open wire transmission line for the phasing lines. As you know, the insulators are some what of a problem, but I have discovered a source of insulators which is cheap and very good. The insulators are plastic staples which are normally used to fasten down Romex cable. The staples are made of polyethylene, which is excellent insulation. The staples look like this:



The nails are spaced  $\frac{11}{16}$ " apart. To use the insulators, remove the nails and run a 1/16" drill through the holes to clear them. You can then thread the insulators on No. 14 wire and they fit very snugly.

I space the insulators about every 5 inches. The velocity factor measures 97.5 percent. If you like you can drill the holes larger for No. 12 wire or turn the insulators on the side if you want some other spacing than that supplied. The Zo using No. 14 wire is 370 ohms and if you use No. 12 wire Zo = 340 ohms. The staples are manufactured by the Madison Equipment Co., Cleveland, Ohio 44102. They should be obtainable from electrical supply houses. The ones that I use are stocked by the Rickel Do It Yourself Store.

# SO YOU WANT TO OPERATE FM <sup>1</sup>

BY

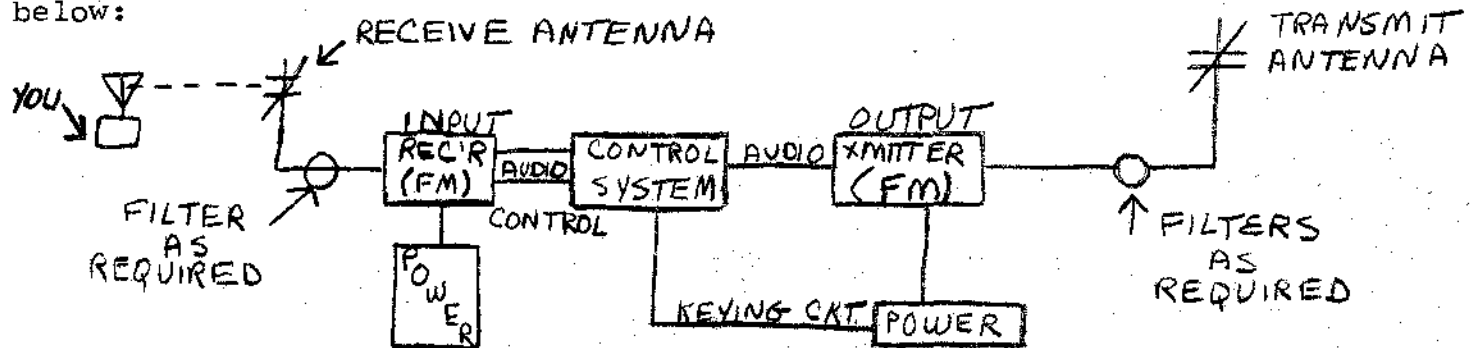
WA3HIT, Paul J. Rilling

So you want to operate FM. Congratulations. Welcome to the fold. What's that? You don't know too much about FM. Well, this article should help you then.

## (1) Repeaters

One major part of Fm operation on Amateur Radio is the use of repeaters. Repeater operation and devices enable mobile to mobile ( or station to station ) communications over greater distances than can be experienced on a simplex channel (i.e. same frequency). This is accomplished by installing the repeater unit at a site having a height or tactical advantage such as a tall hill or building.

Repeater devices have been in use in commercial service for many years and are not new to the amateur service. The usual configuration is as shown below:



As VHF and UHF frequencies are utilized, the communication range is usually determined by effective elevation of the transmitting and receiving antennas. The RF power and usable receiver sensitivity also play an important part and should not be discounted. As you know, the range is usually slightly beyond the optical horizon (just like AM). Therefore, the obvious can be deduced - the higher the effective elevation, the more range you will have. The repeater power output determines the intensity or saturation of the signal as a mobile unit moves around within the service area of the repeater.

Audio output is taken from a point in the receiver, usually at the discriminator output and is processed to provide the necessary frequency response level and impedance required by the transmitter. Keying of the transmitter is usually (but not always) accomplished by a relay device (carrier operated relay) connected to the squelch system of the input receiver.

The diagram above, however, does not include the legally required command devices or automatic identifier or three minute timer (as used by WA3BKO). The FCC requires that a command system (using direct electrical or physical control or radio) is required. Most relay systems utilize a command

CONTINUED

## SO YOU WANT TO OPERATE FM CONTINUED

by UHF (420 Mhz band) employing electro-mechanical selectors pulsed by tones transmitted over the command channel (i.e. secode decoder). The least complex primary command system utilizes a UHF receiver at the relay site having a carrier operated relay installed. A command channel transmitter is turned on (F $\emptyset$  emission) to operate said carrier relay. When the UHF receiver detects the presence of carrier, the re-transmission path is provided to the VHF relay transmitter. The absence of the UHF command signal interrupts the re-transmit function. The use of tone-pulsed selectors permit more than the simple go - no go command. One such system in California provides 100 remote commands. This system is unique, however; as they have (in addition to VHF and UHF retransmitting capability) a 3 GHZ television system (fully controlled as to focus, pan, tilt, etc.) to scan the meters on the remote equipment.

The frequencies involved (i.e. transmitter and receiver) are carefully chosen (or assigned, if a frequency co-ordinating plan is used by amateur groups in a given area) to provide a minimum of degradation of the input receiver by the keying on of the associated transmitter. Typical frequency separation for a common repeater site is 600 to 800 KHz. Recently, the northeast repeater association decreed that all 2 meter repeaters use the 600 KHz separation. WA3BKO already has a 600 KHz separation, using 146.16 Mhz input (receiver) and 146.76 Mhz output (transmitter). This decree, mentioned above, only applies to repeaters in the northeast section of the U.S. This should cover all of your questions about repeaters, however, there is still more you should know about FM in general.

### (2) Type of Microphones

Carbon microphones, although used by many FM hams, are not necessary. They are frowned upon in most commercial circles due to their inherent noise level and distortion. Most two-way manufacturers utilize magnetic microphones as standard equipment. The telephone people specify carbon microphones for mobile-tel use due to the extensive (exclusive) use of carbon microphones in the standard telephone instrument.

### (3) Simplex Operations (Station to Station)

Narrow-band FM is permitted on most bands with a few exceptions (even on the HF bands). Wide band FM is permitted above 52.0 Mhz. Returning to repeaters for a minute, I would like to point out that the 6 meter relay systems in California employ NBFM and are centered about 51 Mhz. WBFM is utilized nation wide on 52.5 Mhz. Almost all 2 meter systems utilize WBFM. However, WBFM is on the way out. Most WBFM equipment is old, and is in poor condition. This trend may be reversed in the next few years with new amateur WBFM equipment (some, of which, has already appeared on the market). There are two simplex (point to point or station to station) 2 meter FM frequencies in this area. They are \*146.94 Mhz and 146.58 Mhz. The "58" frequency is also used as an ATV engineering channel. As pointed out earlier, point to point contacts (in mobiles) can be made to a maximum distance slightly beyond the optical horizon of one of the stations. This distance can be increased at one's fixed station (base station or home station).

### (4) VFO Operation on FM

It is possible to modify a VFO to FM but it isn't usually done. The VFO has to be exceptionally stable and free of mechanical noise. CONTINUED

## SO YOU WANT TO OPERATE FM CONTINUED

A varicap device is installed across the VFO's oscillator tank. A small amount of audio is introduced into the varicap/tank circuit. Variations in audio amplitude cause a varying voltage across the varicap. The varicap's capacity then varies causing the VFO to be FM'ed. Keep in mind that the stability required for a NBFM system is on the order of  $\pm 700-800$  Hz at channel.

If you are using NBFM on 51.0 Mhz and 6.3 Mhz VFO, the VFO will have to maintain better than  $\pm 100$  Mz stability. To obtain  $\pm 5$  KHz deviation (commercially known as NBFM) the frequency shift under modulation will be on the order of  $\pm 620$  Hz. With the typical VFO you won't have the required stability. You could probably obtain system deviation by "vocally" modulating the VFO tube! Another point is that you will have to add audio compensation (i.e. pre-emphasis) to the audio amplifier driving the varicap.

Therefore, it is a lots simpler and more accurate to operate FM crystal controlled. However, crystals can run up to \$7.00 each. You will need two crystals for each simplex frequency you intent to use (one transmit, one receiver) plus 146.16 transmit and 146.76 receive in order to use the WA3BKO repeater.

### (5) Equipment

It is unusual to find "homebrew" equipment on an FM channel due to the availability of used commercial FM equipment. The extent of "ham" construction is usually limited to power amplifier construction, although many hams may have home built equipment of the "hand carry" variety. Most repeater system operators buy a used piece of FM equipment and concentrate on keeping it going. On the other hand, many hams develop new automatic calling devices, telemetry systems and multiple channel operation, site development and propagation experimentation. It is easier than ever to get on FM now since many companies are manufacturing 2 meter FM rigs. All you have to do is connect an antenna (vertically polarized) since most rigs operate on batteries. Some companies currently manufacturing FM solid state equipment are Regency, Varitronics, Standard, Drake, Gladdig, Tempo, and Swan; (I use the Drake TR-22 for my 2 meter operations on FM).

### (6) In Closing

This article attempted to cover all aspects of FM, from both a general and technical viewpoint. It tried to answer all basic questions about FM operations. Hope 2 hear you on FM.

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### FOOTNOTES:

1. Thanks to P. Thompson, WB6PUE of the California amateur relay counsel for supplying me with the technical information used in this article.

\* Because of a new repeater on 146.34 - 94 in West Chester, 146.94 Mhz is no longer a simplex Fm channel. All FM simplex operations will be limited to frequencies between 146 and 146.58 Mhz. According to March, 1972 - 73 Magazine, the Northeast Repeater Association has proposed

CONTINUED

SO YOU WANT TO OPERATE FM CONTINUED

that 146.52 Mhz be made a national FM simplex channel, and has requested that all manufactures equip new rigs with xtals to operate simplex on this frequency and discontinue the 146.94 Mhz transmit xtal. The 94 xtal will be supplied only on request.

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1296 DX pedition To Delaware

K1SFF/3 Tony

In order to make the State of Delaware available to 1296 Mhz , enthusiasts along the eastern seaboard an expedition has been organized by WA2LTM and K1SFF/3. The project has been adopted by the Mt. Airy VFH Radio Club and will operate under the club call W3CCX/3. Equipment has been donated by many 1296 stalwarts. WA2VTR and K2JNG have donated converters, preamps and a 3 foot dish. K3UJD has provided the transmitter previously used on the North Carolina expedition. It is capable of 100 watts output. K3BPP has donated a 75A2 Receiver and WA3LNH will carry all this gear 100 feet up the tower on his broad shoulders. Two locations are being considered, both in northern Delaware with an excellent shot in all directions. Stations from Maine to Norfolk, Va. and as far west as Michigan have been or will be scheduled. The operation is tentatively scheduled for the 13th of May, a Saturday. We plan to operate through the afternoon and evening. Anyone wishing to schedule W3CCX/3 on 1296 from Delaware can do so by contacting either K1SFF/3 or WA2LTM. Keep you fingers crossed for good weather conditions.

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RCA In Princeton Developed Camera For Moon Mission

From Evening Bulletin, April 17, 1972

Bert Soltoff of 961 Warfield Lane, Huntingdon Valley, has a special interest in watching telecasts from the moon during the explorations of the Apollo 16 mission.

He is manager of camera development for RCA's astro-electronics division in Princeton - a man who played a key role in providing the color camera for the mission.

Soltoff said today: "The heart of the camera is the rugged Silicon Intensifier Tube, which contains about 400,000 tiny eyes or diodes. These permit the camera to see under the extremely varying lighting conditions of the moon.

"The camera is relatively immune to damage from bright light, even when pointed directly at the sun."

CONTINUED

Dear Editor,

It seems that I can't even let you alone for a couple of months without something ridiculous happening. Home brew night used to be worth while, but now runs a very distant second to the "Crying Towel Night". Why?

Look, there were five categories and two winners in each category - that makes ten winners. But there were only seven winners - three duplicates. Either there was a shortage of home brewers or a shortage of brain and common sense (the judges).

Digging further, it seems that the second most ambitious project was a power supply with some colored lights. The power supply was heavy and probably weighted down the minds of the judges. There were some pretty ambitious projects that weren't even given "honorable mention".

Want more -- one of the winners of the transistor category was a converter complete with birdies. Well, birds of a feather.....! More like "BIRD BRAIN".

The measurement category measured the extent of the importance of measurements to the club members (especially the home brewers). Maybe they haven't figured a way to measure the frequency they are on and thus have been on the wrong frequency all this time. The people on six meters and two meters think so because of the absence of Pack Rats on those bands. Except for Monday when the appliance operators and Pack Rat friends appear. Oh, yes, the contest, there are Pack Rats around then. Maybe you should combine the closed contest meeting and home brew night. Then you can avoid the obvious embarrassment of home brew night by restricting it to members only. Also, the Crying Towel Meeting can help those poor and ignorant souls that really did some home brewing (including the alcoholic kind) secrete a few of those mind clearing tears.

O.W.H.N.

P.S. Where was the grouch when this was happening. Maybe he was part of it -- Ha Ha or hamwise Hi Hi

\*\*\*\*\*



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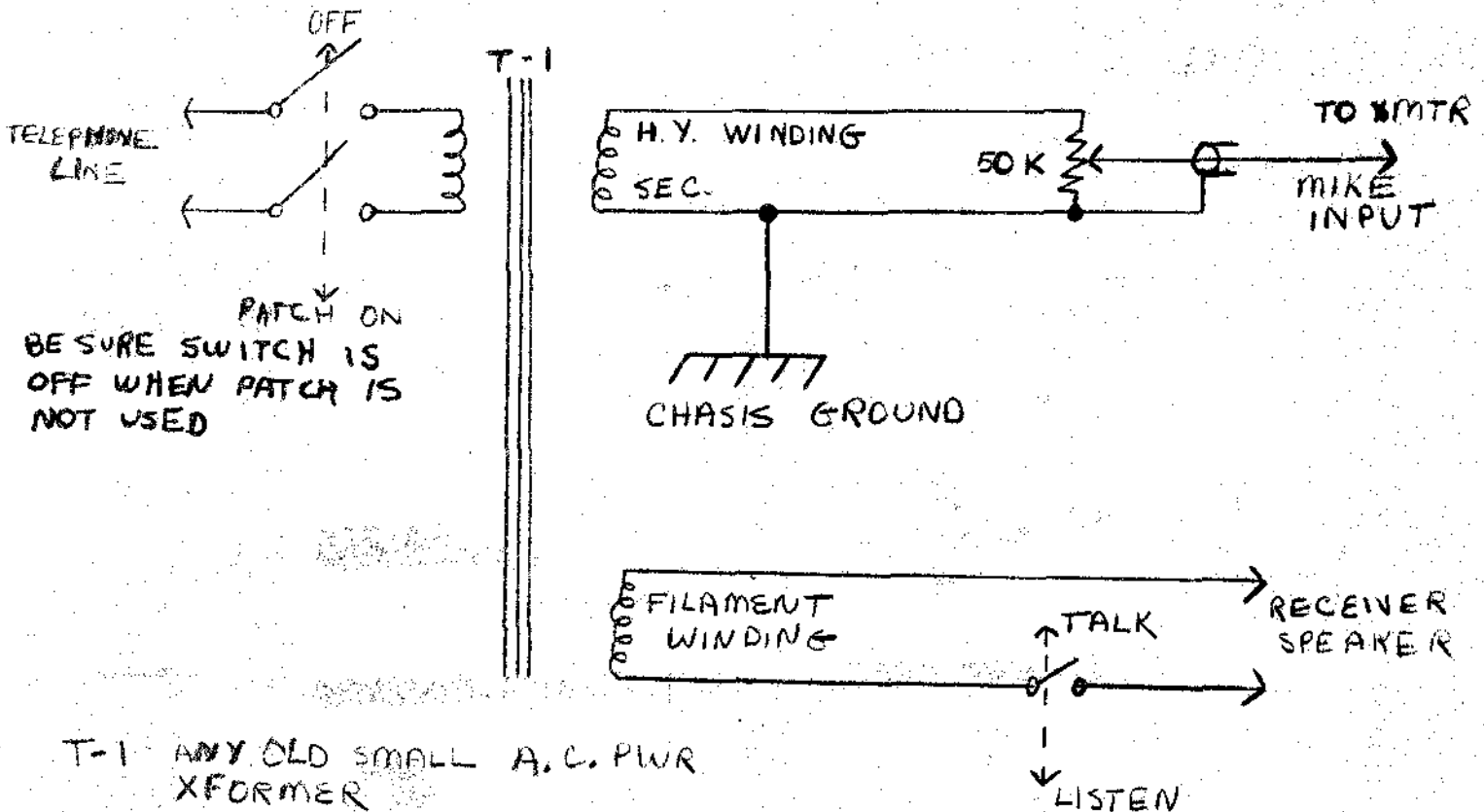
Soltoff, an RCA employee since 1962, and his wife Harriet have three children.

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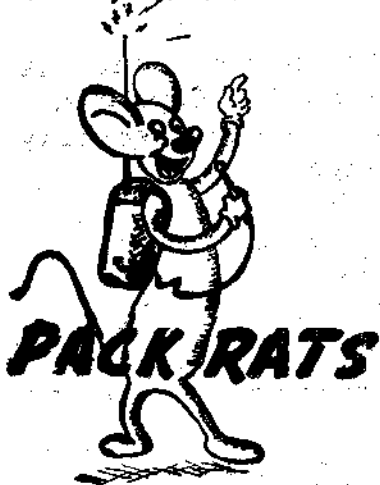
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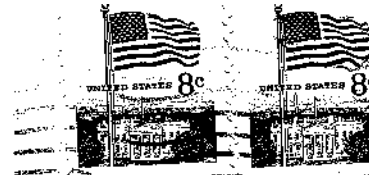
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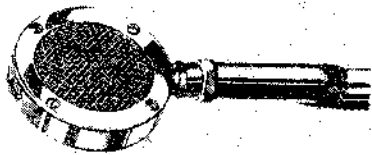
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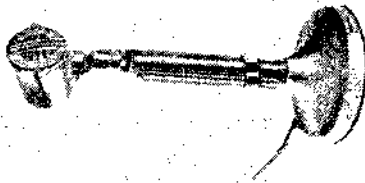
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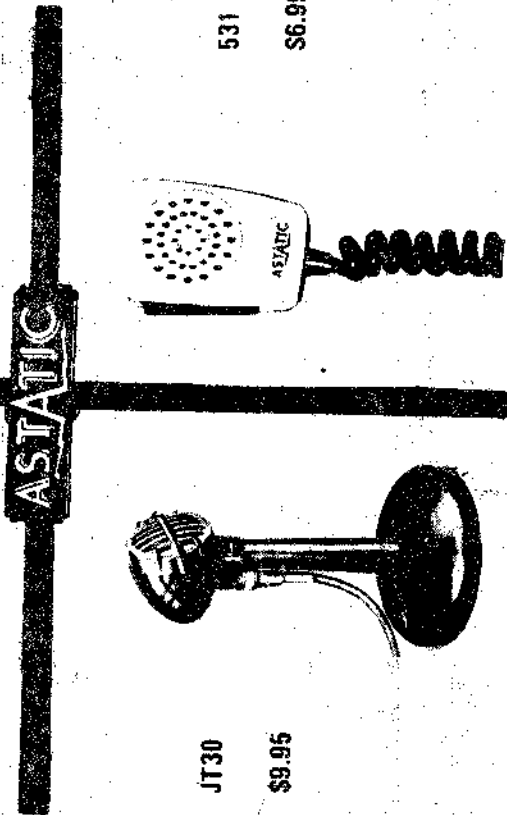
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