



PACK RATS'

CHEESE BITS

CLUB CALL: W3CCX



MT. AIRY V.H.F. RADIO CLUB, INC., PHILA., PA.
(50.2, 145.2, 221.4, 432.3 & 1296.3 MC)

AFFILIATED CLUB: AMERICAN RADIO RELAY LEAGUE

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

VOLUME III

AUGUST 1969

NUMBER 8

OUR PREZ SEZ

Instructions to a New President
"And Don't Forget the Cheese Bits Bit!"

Well now, how about that! A writer I am not (amongst my many other failings) so what to do. Smart people in command get others to do their work. A ghost writer? Great idea - probably requires bribery - I'll use great cunning here.

But this I can do. Many thanks and congratulations on a great job by the outgoing executive group. Charlie, K3HSS, as President led us through a tumultuous year that resulted in a fine picnic, heady success again in the V.H.F. S.S., a terrific field QSO Party and a Ladies' Night that jazzed everybody. All the meetings, as programmed by Vice-President Pres Funk, W3MFY, were patterned to please all. Technically and socially and gourmet wise they set a standard of excellence. The supporting cast to the above action deserve kudos from all the members. Committees, directors, chairmen, secretaries, Cheese Bits staff all contributed effort to the above to give momentum to the Mt. Airy V.H.F. Club.

Now, what's ahead? I suppose it's the President's job at this point to write an inspiring message to get everybody to a point of feverish activity from which will spring many volunteers offering astonishing new things. Ah, but I'm not a rah-rah type (where's that ghost writer?). So here's what I think. Committee changes to relieve some of the overworked guys. A worthwhile program each meeting. A working technical committee. A policy geared to the new V.H.F. amateur. More reporters for Cheese Bits. Generally, a continuation of our annual activities. But most of all - LET'S HAVE FUN. Each activity must be a fun thing. If it's not, the heck with it!

DEADLINE FOR ARTICLES IS THE GENERAL MEMBERSHIP MEETING.

EDITOR:

K3JJZ, ELLIOTT WEISMAN
8533 ALGON AVENUE
PHILADELPHIA, PA. 19152
215 - PI 2-3525

TRUSTEE OF CLUB CALL: W3CCX

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

PUBLISHER AND SUBSCRIPTION MANAGER:

K3GAS, DOC CUTLER
7815 NEW SECOND STREET
PHILADELPHIA, PA. 19117
215 - ME 5-1078

PRINTER:

K3ZPN, LLOYD SCHOENIG
RED LION ROAD
PHILADELPHIA, PA. 19114
215 - 637-6455

AWARDS CHAIRMAN:

W2EIF, JOSEPH KILGORE
#5 SUNNYBROOK COURT
STRATFORD, N.J. 08084

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 - 9:30 P.M.
432.3 - 10:00 P.M.

OFFICERS - 1969-1970:

PRESIDENT: K3KKN, ERNIE KENAS
VICE-PRES.: K3JJZ, ELLIOTT WEISMAN
CORRES. SEC.: W3SAO, FRANCIS BRICK
REC. SEC.: K3ZPN, LLOYD SCHOENIG
TREASURER: W3MVF, DAVE BLOCH

DIRECTORS:

K3HSS, CHARLES LUSTICK
K3KTY, JOHN TATE
W3CJU, DONALD HAMPTON
W3CXU, JOHN ALLEN
K3MXM, LEE COHEN
K3CIV, RALPH HERSH
(Ex-Officio)

PACK RATS' CHEESE BITS is a publication of the Mt. Airy V.H.F. Radio Club, Inc., Philadelphia, Pa., and is published monthly.

20¢ per copy \$2.00 per year

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.

* * * * *

ARRL BULLETINS

NR 225, June 19, 1969

Effective July 1, W1AW will transmit additional daily code practice Monday through Friday at 1300 GMT on all regular code practice frequencies. The text of the 0130 GMT run will be repeated during this time period. This is a six month trial to determine the usefulness of the extra practice. Your comments would be appreciated. Full details will appear in Operating News, July QST AR

NR 228, July 3, 1969

Individuals and clubs alike will be interested in obtaining a copy of the ARRL Safety Code. Designed to be posted, this operating aid furnishes useful safety keyed tips for operating as well as for equipment design and construction. The reverse side of the sheet describes an ideal club safety program. An addressed stamped envelope will help to speed your copy which is available without charge from ARRL, 225 Main Street, Newington, Connecticut 06111 AR

NR 229, July 10, 1969

A new project at ARRL Headquarters involves preparation of introductory amateur radio material for the 12 to 16 age group. Any amateur in this age group, as well as older ones, is invited to participate in this project. Address your ideas on what the publication should contain, what age

GETTING TO KNOW YOU
W3GEW, Sid Weiner

After talking it up on the nets and a write up in CHEESE BITS and getting no response, I have decided to start the ball rolling with my autobiography. This may spark some interest and a few letters should come my way for the "Getting to Know You" column.

My interest in ham radio began back somewhere in 1930. A great aunt had given me her crystal set. I sat up nights listening to DX stations like KDKA in Pittsburgh, etc. My next real radio was given to me by my uncle. It was a large copper chassis with God only knows how many tubes. It was not working and I fixed it by using a screw driver to test it and then when I got audio I put a piece of wire across that circuit. I probably had bypassed an inoperative TRF stage and it worked like a charm. It was a big Zenith and had at least six, if not more, TRF stages before the detector tube, followed by a half dozen or so audio tubes. I was hearing all the 160 boys on it, lots of them still on the air today, such as W3HD and W3AIX to name a few. The real spark that started me in studying and building was W3FVW, Joe Grady, the former disc jockey, now with WPEN in some official capacity. I made a few visits to his shack, then went out and bought the handbook and started building 1 tubers, then a 3 tube set similar to the National SW3. I studied my code with W3GEW who took his test two weeks after I did. I got my Class "B" ticket at the end of 1935 and then the Class "A" a year later, which automatically became an advanced class license when the regulations changed. The code speed then was 13 WPM and they asked you 10 questions, I believe. From 1935 on I built many CW transmitters. Nothing was ever over 50 watts input. I tuned them up by the brightest glow of the bulb in my bedroom ceiling light. My first rig was a single 245 tube into a 40 meter Zepp antenna. The spreaders for the feed-line were wooden dowls soaked in hot paraffin. It worked out like a bandit. I then added a Taylor T20 tube as a power amplifier. I then built 1 superhet receiver from the handbook of 1937 with XTAL filter and plug in coils. It's still in use today with each band spread out 500 divisions on a National HRO dial. I use it for CW and side band with the Apache LF rig now. I forgot to mention one thing which I will do now. I would have become a ham much sooner but we lived in a kosher house and I had a gosh awful time convincing my dear Mom that a radio ham was not the same thing as the unkosher animal that the meat comes from. Most of my years in ham radio were spent on CW until one day I hooked up a Mallory inductotuner into a Navy surplus reciever and heard six and two meters on it. The VHF bug bit me then and I put together a rig from the Mobile handbook, a 12BH6 tube modulated by a 6BK5. I loaded it up into my 40 meter folded dipole and on March 31, 1959 at 8:15 p.m. my first phone contact on VHF was made. The honor goes to K3GOZ. Then Ben, K3ESL, came over and with the help of his Jr. Op. K3BPK put up a 6 meter dipole. We then built a 2E26 rig and had great results with that. On November 13, 1960 I purchased a 4 element Telrex for 50MC and a 5 element Telrex for 144MC along with a TR4B rotator and Ben came along again and put them up for me. I then became a Pack Rat in 1960 and have been as active as I can in all the contests and the various committees. I would like to do more than I can but my health doesn't permit it. I used to love to home brew but here of late have been buying equipment. The latest being a Heathkit Apache for the L.F. bands. We use it on CW and 10 meter phone. As far as the phone operation on the other L.F. bands, forget it. I need at least 50 KW SSB to get a QSO with someone. Well, that's the story of part of my activities in ham radio. I could go on for pages on the good old days of ham radio but that would take many more pages. I'll cover that in another article at a later date.

WE GET LETTERS

Six Meter FM Operator:

The WCAU Amateur Radio Association has installed a 6 meter repeater in the Roxboro section of Philadelphia. It is an open repeater for use of all amateurs in the Philadelphia area and you are invited to use it. The repeater transmits on 52.525 or 52.64 MHz. The input to the repeater is 53.75 MHz.

The system is set up for 15 Kc deviation. In order to transmit on 52.64 MHz, a 120 hertz tone at 5 Kc deviation is transmitted along with the normal deviation. The receiver is set up at .4 microvolt sensitivity with a unity gain coaxial antenna. All of the receiving equipment is located 600 feet from the ground and 880 feet above mean sea level.

The transmitter has an output power of 60 watts and also uses a unity gain coaxial antenna. These are located 300 feet from the ground and 580 feet above mean sea level. The transmitter has a delay of 2 seconds "on" condition so that the magnetic tape machine associated with the remote control facilities will be up to speed. The transmitter also has a 5 second "off" delay hold condition so that it does not have to be re-keyed up during a QSO.

Control of the transmitter is by direct wire into the building at the base of the antenna support. Call letters are given every three minutes if the transmitter is keyed up. This is derived from an endless loop tape cartridge that has tone stops so that when the transmitter is first keyed up the call letters will then be immediately given.

Logging is 100%; i.e., as long as the transmitter is on, a slow speed 1/4" tape recorder is recording all the information. The two tape units along with the remote relay control unit are located at ground level inside a building at base of tower. In addition, there is a monitor speaker system so that the system can be monitored at all times.

Everyone is welcome to use the system; we ask only that transmission be held short so that we do not tie up the simplex channel any more than is necessary. In case anything may get by our monitoring people we ask that, if you hear anything abnormal in the technical nature or hear anything of an operating procedure that you feel is not proper, please call one of the following men, in this order:

W3HKZ	Ed Kushner	825-0775
K3YWH	Jay Mathis	825-0911
W3PQV	Jim Hallowell	584-4400
K3ECV	Dick Swayze	687-0837
WA3FRD	Tom Dorey	265-9210
K3DQU	Ben Dickerson	FU 9-5157
K3RGK	Frank Gallagher	265-7318
W3NTD	Jack Jones	WI 7-1918
K3CPG	Tom Keegan	OL 9-5082
W3HGZ	Ted Vawter	828-3530
K3ADH	Bob Patterson	LA 5-8433
K3EHV	Dick Livingston	KI 4-7150
W3GSC	Hank Schorle	828-7025
W3KBM	Allan Joffe	CH 7-8260
W3TFS	Ray Craig	696-0239
K3QDO	Dan Falzani	EL 6-8269

Continued on Page 6

FROM THE BOOK RACK
Paul R. Behrmann, K3WEU/AREA*

HOW TO USE GRID-DIP OSCILLATORS, Revised Second Edition
by Rufus P. Turner; Rider Series, Published by Hayden Book Company, Inc.
111 pages, illustrated, paperback \$2.95

Complete operating data on the uses of the grid-dip oscillator in radio, tele-
vision, and electronics is contained in the Revised Second Edition of HOW TO
USE GRID-DIP OSCILLATORS. The Second Edition concentrates on practical appli-
cations which have been proven by experience. This heavily illustrated, clearly
written book is organized for systematic study by students, or for convenient
handbook use by technicians, hobbyists, or engineers.

Showing how to transform the grid-dip oscillator or meter into a highly versa-
tile shop and laboratory instrument the book uses easy-to-follow diagrams and
pictures to back up its concisely written descriptions. It tells how to check
L-C circuits, linear and coaxial tanks, how to convert a signal generator or
r-f test oscillator into a GDO or a GDO into either a conventional or marker
generator, signal injector, or c-w oscillator.

It presents step-by-step instructions on how to measure inductance, test and
align TV, radio and fm receivers, how to get more out of a transmitter, how
to find the resonant frequency of an antenna or check for antenna matching.
It also describes how to use the GDO as a field-strength meter, a signal source
for an SWR meter, an r-f meter, and in numerous other ways. A complete roundup
of commercial GDO's - both assembled and in kit form - and their features is
included.

Rufus P. Turner, P.E., is currently on the faculty of California State College
at Los Angeles. A senior member of the Society of Technical Writers and Pub-
lishers. Mr. Turner has written twenty-two books and contributed hundreds of
articles to technical magazines. He is the author of PRACTICAL OSCILLOSCOPE
HANDBOOK AND WAVEFORM MEASUREMENTS, also published by Hayden/Rider.

* Amateur Radio Editors Association

ARRL BULLETINS (Continued)

reading level should be involved, as well as comments on theory coverage to
ARRL Headquarters, 225 Main Street, Newington, Connecticut 06111 AR

NR 230, July 17, 1969

Effective January 1, 1969, two ARRL Advisory Committees became active in the
fields of contests and repeaters. This pilot project is designed to afford a
greater opportunity for amateurs to register their ideas and opinions within
these specialty areas. Adequate response is vital to help these volunteers
reflect the wishes of specialized groups. Information and addresses of mem-
bers of the Advisory Committees appears on page 62 of March QST AR

A meeting of the V.H.F. Traffic Nets was held on July 18 at the QTH of WA3HDI.
Where were you traffic and V.H.F. lover?

OUR PREZ SEZ (Continued)

I feel we all have enough work in providing our livelihood. This is a hobby, let's have fun.

W3KKN, Ernest Kenas

P.S. Wanted - one ghost writer!

WE GET LETTERS (Continued)

W3FLX	Frank McCarron	DE 8-5753
W3LC	Ken Hahn	JE 5-5241
W3URE	Ed Hill	WI 5-0191

WCAU AMATEUR RADIO ASSOCIATION
City Line and Monument Avenue
Philadelphia, Pa. 19131

HAVE WE FAILED?
de MHz Times

I was sitting at my desk the other day laying out my plans for Field Day. In the course of my preparations, I began to search for a way of maintaining contact with my family since there was a possibility that I would have to rush home on short notice, probably in the middle of the night, to assist my XYL in the generation of a new harmonic.

It dawned on me that there really was not instant, direct communications available despite the fact that I would have three acres of thousands of dollars of electronic equipment at my disposal. The best I could do would be to depend on the closest telephone to the FD site located in a farmhouse and hardly possible to being termed instant communications. Here I would be, in the middle of a simulated emergency, if you will, and the best that could be done to get a real emergency message through would be to utilize a device invented long before amateur radio or any formal wireless communications was invented.

Fortunately, the problem is now an academic one, the fourth harmonic having made the scene just hours ago. But unless there had been another ham in the family at home, I would be stuck. I could invent in commercial equipment for another type of wireless service, e.g., business radio or carphone, or I could resort to the Citizens Radio Service, again having to obtain new, additional equipment, but something seems amiss when with all the code practice, the several license examinations, the flexibility of a room full of state-of-the-art amateur service electronic devices, and all the certificates on the wall, I can't make direct contact with home in this day and age.

Something to think about!

73's - Dick, WA3FOQ

SWAP SHOP

Conducted By: W3ZRR, Ray Whitehead
7329 Shelborne St.
Phila., Pa. 19111
215 - RA 2-4786

FOR SALE

- Clegg 22'er transceiver - new condition. Firm price \$165.
- ARC-5, 3 to 4 MHz, VFO. Make offer.
- 220 MC beam (about 12 elements) with coaxial linear balun matched and tuned.
- 2 meter preamplifier - 416B with timer and power supply.
- 50 ft. Phelps Dodge 7/8" foamflex coaxial cable with fittings to match "N" connectors.
- 35 ft. Phelps Dodge syroglex coaxial cable with connectors, semi-rigid aluminum outside sheath.
- 20 ft. long foamflex with connectors.
- Brand new condition dague slow scan TV monitor complete with video amplifier. \$25 firm.
- Assorted tubes - 6146's new, 807's new, 4CX250B's and 4X150A's used but okay.
- Approximately 150 watt sola constant voltage transformer.
- Hy-gain 2 meter halo - new.
- Barry 220 MHz transceiver, complete with modulator, power supply and cables. R.F. amp of receiver needs little work, was okay on the air.

CONTACT: W3GXB, Robert Fox
305 Quigley Avenue
Willow Grove, Penna.
OL 9-3903

FOR SALE

- 2 three foot table-top racks.
- 2 five el wide-space 6 meter Telrex beams.
- 300 watt, 6 meter, amplifier (into antenna) - commercial made - ready to go with any 50 w SSB excter.
- 432 meg. transmitter with P.S. (includes relays, mike, crystal ect.) (commercial centimeg transmitter).

CONTACT: K3IPM, Stan Smith
133 Hogeland Road
Southampton, Pa. 18966
355-2867

FOR SALE

- BC-348 with international XTAL converters built in. Built in 115 V power supply and audio amplifier. Guaranteed 'A1' condition. \$50
- 6 meter RF unit 8 MHz OSC, mult. and 815 final. Manufactured by Lavoie Labs including 3 meter. Needs power. \$25

CONTACT: WA3KNN, S. Carpati
TU 6-9349

FOR SALE

- 10" RCA portable VHF TV. \$30
- 17" Emerson portable VHF TV. \$30

CONTACT: WA3HIT, Paul J. Rilling
5750 Rising Sun Avenue
Philadelphia, Pa. 19120
PI 9-1800

FOR SALE

- Johnson Pacemaker 90 watts Am, CW SSB and VFO built in - with manual. \$95
 - Mobile Motorola FM Tuner. \$35
- Both items in excellent condition.

CONTACT: Mr. Phillips
Wayne, Penna.
MU 8-0757

MEETING NOTICES

The next DIRECTORS MEETING will be held on Wednesday, August 13, at the QTH of W3HKZ, Ed Kushner, 2212 Oakwyn Road, Lafayette Hill, Pennsylvania.

The next GENERAL MEETING will be held at the QTH of W3MFY, Pres Funk, 4860 Magnolia Avenue, Trevoise, Pennsylvania
Topic - Slides and Swim Party.

FROM THE HAM MONITOR

Marriage teaches you loyalty, forbearance, self-restraint, meekness and a lot of other qualities you wouldn't need if you'd stayed single.

HAMTRONICS' HAM-BITS



you haven't heard?

**Now BIGGER
And BETTER
Than Ever!**

only at
HAMTRONICS

Model TE 7-02
 • Extended Range Antenna Noise Bridge
 • Range — 1 to 300 MHz
 • BNC Connectors
 • Resistance Testing — 0 to infinity, calibrated 25-100 ohms
 \$34.95

DX-ARRAY

Cush	NEW 20 ELEMENT ANTENNAS
DX-120 — 144 mhz	\$29.50
DX-220 — 220 mhz	22.50
DX-420 — 432 mhz	17.50

LET US HELP YOU PLAN YOUR ANTENNA SYSTEM NOW.

omega-t systems
incorporated



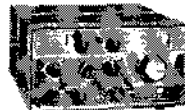
ALL MODELS IN STOCK

Specials!

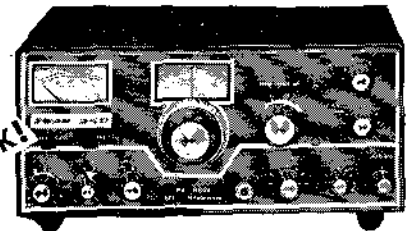
PL259 Coax Connector	5 for	2.25
MIDLAND SWR Bridge	23-126	12.95
MARS SW10 SWR Bridge		18.95
STANDARD Headphones	21-300	1.99
MONARCH Generator Noise Filter		2.95
ASTATIC GD104 PTT Mike & Stand		25.00
FEDTRO 5RD 5" Outside Horn		7.95
TREVOSE Spray Contact Cleaner		.99
102 inch Whip + Base + Spring		7.99

**WE'RE
MAKING
BIGGER
AND
BETTER
DEALS**

DRAKE TR-6



IN STOCK!



SWAN 250 C

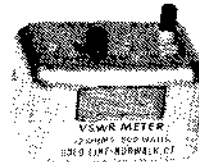
SWR MINI-BRIDGE



CODE PRACTICE OSCILLATOR MODEL OCP

A solid-state code practice oscillator featuring a built-in speaker and two transistors. Tone control on front panel provides a variable pitch over a wide range. Headphones may be plugged into a jack on the front panel. The unit is housed in an attractive bakelite cabinet with a brushed silver front panel.

Model OCP, wired and tested — \$ 7.95



GOOD TO 250 Mc.
worlds smallest
swr bridge. stop in
and see it.

- Small and perfect for inline mobile applications.
- Very stable meter readings.
- Handles a full 500 watts average power.
- Negligible insertion loss.

14⁸⁵

EL7 1400

SK75300

OPEN EVENINGS

MON.

THURS.

FRI.

9 AM TIL 9 PM

TUES. WED. SAT. 9 AM TIL 6 PM



The annual PENN WIRELESS ASSOCIATION Awards Banquet is rapidly approaching, and with it the feature event, the presentation of the BUCK AWARD for the year.

Now the Buck Award Committee is actively soliciting nominations from all hams in and around Bucks County.

The Buck Award, consisting of a citation and trophy, is to be presented to the one amateur whose activities in amateur radio have shown the greatest merit in the past year.

The only specific restriction is that the ham chosen be currently licensed and a resident of Bucks County.

Personal achievements are not discounted; however, the activities leading to the Buck Award should encompass Service to the Public, Service to Ham Radio, and/or Service to the individual's Club, with emphasis in that order.

Written nominations are required if a nominee is to be considered, and these may come from anyone, preferably not a member of the Buck Award Committee.

So will you Delaware Valley hams, both members of the PWA, members of other clubs and non-club-members, please - right away, make up your nominations and send them to BUCK AWARD, BOX 311, BRISTOL, PA.

David L. Heller
K3HNP / W5NFJ

ARPSC MEETING

Date: August 14, 1969 ===== Place: QTH of WA3HIT, 5750 Rising Sun Ave.
Meeting open to all. REFRESHMENTS. RSPV via Radiogram to WA3HIT.

morton d. mazer **WA3EPS**
REAL ESTATE

1609 E. WADSWORTH AVENUE
PHILADELPHIA, PENNA. 19150
(215) CH 8-1682

YOUR BUSINESS CARD AD RUN HERE
ONLY \$1.00 PER MONTH

CONTACT: **K3MCM** LEE COHEN
8242 Brookside Av.
PHILA., PA. 19117
635 - 4942

K3MCM JE 3-4660
4661

LEE A. COHEN

CLAYTON L. HADY & SON
INCORPORATED
4527-31 HEDGE STREET
PHILADELPHIA, PA. 19124
WIPING RAGS
POLISHING CLOTHS
COTTON & WOOLEN WASTE

LOcust 7-7130 **K3KTY**

TRANSPORT EQUIPMENT COMPANY
"Everything for the Truck"

JOHN A. TATE 2215-2217 RACE STREET
HOME PHONE: DR 9-8840 PHILADELPHIA, PA. 19103

 **COPIER-DUPLICATOR DIVISION**

THIS PAPER PRINTED ON
A MULTILITH DUPLICATOR

PHONE: ADDRESSOGRAPH MULTIGRAPH CORPORATION
LO 8-7300 17TH AND VINE STREETS, PHILADELPHIA, PENNA. 19109

449-2300

KASS ELECTRONICS DISTRIBUTORS



DISTRIBUTORS OF
RADIO - TELEVISION PRODUCTS
INDUSTRIAL ELECTRONIC PARTS & EQUIPMENT
2502 TOWNSHIP LINE ROAD
(WEST OF LANSDOWNE AVE.)
DREXEL HILL, PA. 19026

Robert Meyers Associates
Representatives for Electronic Manufacturers
529 Shoemaker Road • Philadelphia, Pa. 19117
(215) 224-1663

W3ZEJ

Robert Meyers

PIONEER 4-2926 - 27

WA3JSE - BEN

G & G Metal Products

STEEL FABRICATION - FORMING AND STAMPING
SPOT WELDING - ARC WELDING

B. GINSBERG

1709-15 GILLINGHAM STREET
PHILADELPHIA 24, PA.



A. G. RADIO PARTS CO.

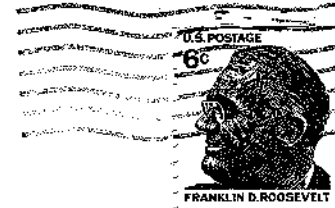
939 TOWNSHIP LINE, ELKINS PARK, PA.

W3BHR

STEVE

TU 4-8198

Pack Rat Cheese Bits
8533 Algon St.
Phila. Pa., 19152



W3KKN, Ernest Kenas
2823 Old Welsh Rd.
Willow Grove, Pa. 19090

MEETING NOTICE

"HAM" BUERGER, INC.

80 N. YORK ROAD
WILLOW GROVE, PA. 19090

IN STOCK
NOW!

75S-3B, -3C Receivers

COLLINS

the most
talked-about performance

COLLINS

NEW

STORE HOURS

MON.	9.30	-	5.30
TUE.	9.30	-	1.30
WED.	9.30	-	9.00
THU.	9.30	-	1.30
FRI.	9.30	-	5.30
SAT.	9.30	-	5.30



TU7-7350