# PACK RATS





CLUB CALL: W3CCX

MT. AIRY VHE RADIO CLUB, INC.

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

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

#### VOLUME V

#### MARCH 1971

NUMBER

#### THE PREZ SEZ

It is now the morning after. The morning after homebrew nite at the Pack Rats and as I sit here in the kitchen while the old blue bomb warms up outside, I am impressed.

The quality and quantity of first class homebrew gear displayed at the meeting was astounding. Let there be no mistake, the judging was very difficult. After considerable review the judges made the following awards:

#### Major Project Category

First Place W3NSI, Lyn Roland

6-2-220 battery operated transceiver

K3GAS, Doc Cutler Runner Up

Homebrew receiver

#### Small Project Category

First Place KlSFF/3, Tony Sousa

1296 amplifier

K3UJD. Mario Fontana Runner Up

S.S.B. mixer system

#### Surplus Conversion Category

First Place WAJAXV, Ron Whitsel

S.S.B. mixer system using the most surplus parts

Runner Up W3FQD, Dick Hunsinger

PTO - VFO

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## DEADLINE FOR ARTICLES IS THE GENERAL MEMBERSHIP MEETING.

#### EDITOR:

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

TRUSTEE OF CLUB CALL: W3CGX
W3SAO, FRANCIS BRICK
821 W. LINDLEY AVENUE
PHILADELPHIA, PA. 19141
215 - DA 4-7524

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#### PRINTER:

WAZKOI, LLOYD SCHOENIG 207 WOODLAWN AVENUE COLLINGS LAKE, N. J. 08094

#### 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 - 1970-1971

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K3UJD, MARIO FONTANA
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K3CIV, RALFH 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.

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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.

#### DID YOU KNOW

W3CL, Harry Stein, has been appointed Assistant Director, Atlantic Division for the period January 1 (noon) to December 31, 1971. Congratulations Harry!

K3WEU, Faul Behrmann, has been named Honorary Goodwill Ambassador by the City of Philadelphia. The certificate is signed by S. Harry Galfend, City Representative, and James H. J. Tate, Mayor.

#### 2 METER REPORT

The two meter band has shown normal activity since the January 1971 contest with very good activity at 9 p.m. at 144.110 MHz. The stations involved are W8DGF, K8CTM, VE3ASO, VE3EMS, VE3DSS, K4TXD, W2EIF, W3KKN, WA3CAG, K1HTV and others. Aurora has been conspicuous by its absence with a little aurora activity noted on Monday night, February 15.

W2EIF, Jo

When the boss hired a shapely new secretary, everyone expected his wife to explode. Instead, she said, "I'm delighted. Henry won't dare come home late for dinner anymore".

> de Signal Report via Ham Hum

#### AURORA PREDICTIONS

Mel Wilson, W2BOC - W1DE1, has been predicting auroral occurrences for the past number of years with rather excellent results. I don't know exactly what his batting average is but it isn't too bad. I recently recieved a report from him via the Central States VHF Society. In the report he stated that the occurrences this past fall were a great disappointment. There were only two good auroras this fall. They were on October 17th and November 6th. There were more but not more than traces. The only reason he has to explain the poor performance is that the sunspot cycle is not declining as predicted. He concurs with my thoughts about a double peak in the sunspot cycle, however, its not a double peak but a flat "peak" (sunspot number of 106 + 1 for six months running). Good

Mel says that 12 auroras were reported to him during the past four months. They occurred as follows:

auroras usually occur on the downward part of the sunspot cycle.

September 7, 13 October 11, 17, 22, 23 November 6, 18, 21 December 12, 14, 15

That is yet to come.

He says he missed predicting the two good auroras. Of the rest, only four were predicted but the other four were within two days.

Mel is not looking for too many good auroras this spring, however, the following are his predictions:

January 1, 9, 13, 14, 23 February 3, 7, 14, 15 or 16, 17, 28March 1 or 2, 9, 12, 19, 21, 27 April 15, 27

As of this writing you can forget January unless you noticed something. If so, drop Mel a line and give him

Continued on Page 4

#### AURORA PREDICTIONS (Continued)

details. Mel says the 7th of February looks very good and he is betting on the 14th and 28th as the best days. March the 9th should be good and the 15th of April has a good chance.

There, now you know as much as anyone does as to when the auroras are going to occur. Keep your ear tuned on those dates and before and after. If you should hear anything unusual, even if it doesn't sound like an aurora, drop Mel a line with all the details such as time, beam heading, who you heard or worked, their beam heading, what the signal sounded like, frequency band, your power used and anything you can think of that you heard. Mel's address is:

Mr. Melvin S. Wilson, W2BOC 17 Van Cortland Drive Pittsford, New York 14524

#### NEW PRODUCTS OF INTEREST TO HAMS

1. Heath Solid State Frequency Counter SM-105A

This new unit to be priced at \$350 assembled and tested, is expected to be available as a kit. Range is from 10 Hertz to 80 Megahertz, which is far greater than the 15 MHz unit now advertised by Heath at \$200 for the kit. The 5 digit readout is of the light emitting diode type. Unit operates on the 120 volts AC (12 watts) line and weight is 3 1/2 pounds. Size is 7 x 9 x 2 1/4 approx.

2. Collins 651S-1 Receiver

One of three new generation digital readout receivers about to hit the market (others - Drake and National). Frequency range covered - 400 KHz to 30 MHz. All tuning is done by means of a phase-locked digital synthesizer. Two knobs set 1 MHz and .1 MHz steps, while the main dial varies frequency in 100 Hz increments at a rate of 10 KHz per revolution. All modes may be received. The readout uses 7 bar segment tubes (six units). Bandwidth is 2.7 on SSB, 6 on AM, with a 16 KHz and 3 KHz available. Price \$4135.

Continued on Page 5

### NEW PRODUCTS OF INTEREST TO HAMS (Continued)

Yaesu FT-2F Two Meter FM Transceiver (Spectronics East, Box 1457, Stow, Ohio 44224)

This new FM unit has many features not found in this price class in other FM units on the market today. Output is 10 watts and 12 channels are available. The big differences are: 4 channels supplied (1 channel choice of buyer), automatic tone burst built in, Hi-Lo power sw- lW and lOW, output and S meter, plus all normal features found in other units such as double conversion. 3Mv sens. and microphone and mounting bracket supplied. Price \$229.95 - same price as the Galaxy and Regency units.

W3NSI, Lyn Rowland

## THE BOOK RACK de Paul R. Behrmann, K3WEU/AREA\*

104 EASY PROJECTS FOR THE ELECTRONICS GADGETEER by Robert M. Brown (TAB Books No. 524); \$6.95 hardbound, \$3.95 paperbound; 106 pages; over 100 illustrations.

Here's a unique collection of handy gadgets you can build from inexpensive components and junkbox parts...a varied assortment of TUBELESS and TRANSISTOR-LESS devices that are useful in the home and car - and fun to build! Making optimum use of conventional diodes, capacitors, resistors and transformers, these specially-designed one-evening projects require no tubes, transistors or ICs yet frequently outperform their most sophisticated counterparts.

There's an electronic anemometer, a hygrometer, and thermometer for the do-it-yourself meterorologists; a light meter, flashgun tester, a darkroom timer and an automatic slide projector for the photographer; an electronic combination lock, dry-cell rejuvenator, tape recorder tone compensator, tone generator, telephone intercom adapter, an electronic coin toss, a "worm turner" for fishermen, plus gadgets for the ham, CBer, and technician.

For each project there is a brief description, a complete schematic, and parts list. The accompanying text tells how to build the device, and explains the operation and any unique characteristics regarding construction and use. Also included is a diode and neon bulb substitution guide and a list of parts suppliers to help you find sources of low-cost electronic components. With fresh store-bought parts, any project in the book can be built for under \$5.00.

PARTIAL CONTENTS: Homebrew Light Meter - Relay Lamp Flasher - Audio Frequency Meter - Hi-Fi Tuner - "Whistler" Listening Device - TV Ghost Eliminator - Adjustable Noise Generator - 9 Volt Battery Charger - Neon Bulb Oscillator - Add-on Noise Limiter - Signal Blinker - 1000 Volt Buzzer Supply - Bubble Lamp Light - Audio Squelch - Beeper Transistor Tester - Kilowatt RF Voltmeter - Light Dimmer - Hi-Fi Notch Filter - Power Supplies - Wattmeter - etc.

\* Director Amateur Radio Editors Association

#### THE PREZ SEZ (Continued)

#### Most Novel Category

First Place - K3BPP, Walt Bohlman

1296 horn - 13 db gain

Runner Up - K3IUV, Bert Soltoff

Code wheel

Another job well done. Now we should turn our efforts to some of the projects coming up. Most of you know what they are so I'll just list the chairmen:

Ladies Night - K3
June QSO Party - K3

K3KTY, John Tate K3ZSG, Bill Murphy

WA3NGK, Harry Brown

Family Day & Picnic - W3ELX, Mario Deluca

W3FQD, Dick Hunsinger

Volunteer your services. Be a part of the Pack Rat happenings:

73, K3JJZ, El

## CALENDAR OF COMING EVENTS Syllabus by Lee, K3MXM

March 10 - Board of Directors Meeting at 8 p.m.
QTH of K3MXM, Lee Cohen, 8242 Brookside Road, Elkins Park, Pa.
Call ME 5-4942 for directions.

Directors and interested parties invited.

March 17 - General Club Meeting at 8 p.m.
West Oak Lane Jewish Community Center, Thouron and Sedgwick
Streets, West Oak Lane

Single Sideband

What it is all about, how it is generated, how it is detected, how it is used, its advantages and disadvantages. Demonstrations and chalk talk. Come and have your problems and knowledge straightened out all on a NCN-engineering level. Linears and transistorized methods will also be covered.

This is an open meeting so please invite your friends and other interested parties. Refreshments after the meeting.

April 14 - Board of Directors Meeting

April 21 - General Club Meeting
Subject to be announced in next issue.

May 8 - 15th Anniversary Dinner - Buck Hotel, Feasterville, Pa.

A real gala affair. Many, many surprises. The best of the past 15 years will be there. Meet up with all those members of past years. Excellent food, congenial bar, and best of all a danceable band.

### CALENDAR OF COMING EVENTS (Continued)

Look for special letter coming soon.

SEND your QSL card now to K3MXM so it can be used in the decorations. If I don't get your card it cannot be used so please send your card N O W : :::

June 12-13 - June QSO Party, Hilltown, Pa. WA3NGK and K3ZSG co-chairmen

August 8 - Pienic, Flourtown, Pa.
W3FQD and W3EIX co-chairmen

#### Interesting Addendum

DUES are DUE - send your check now to K3GAS \$8.00 general membership \$4.00 retired member

Book review every Tuesday night at 8 p.m. - 50.2 MHz K3WEU - net control - check in four times and receive an interesting book.

Have something to trade, sell or are looking for ? - use the free service of CHERSE BITS - send your ad to W3ZRR for insertion in Swap Shop column.

#### Hamfest Dates

April 17 - Syracuse - send to R.A.G.S., Box 88, Liverpool, New York 13088 for information

April 24 - Dayton Hamvention, Wampler Arena - send to Dept. Q, Box 44, Dayton, Ohio 45401 for information

October 24 - Gaithersburg May 15 - Rochester - WNY (a good one)

Special note to other newspapers and clubs. If you have an auction, special program or hamfest please send information to K3MXM for insertion in this column. Thank you.

#### Reprinted from Congressional Record December 15, 1970

Inglis Ham Club - Hon. Joshua Eilberg of Pennsylvania in the House of Representatives, Tuesday, December 15, 1970.

Mr. Eilberg, Mr. Speaker, Philadelphia City Representative and Director of Commerce S. Harry Galfand will send holiday greetings to Gen. Creighton W. Abra commander U.S. Military Assistance Command, Vietnam, and commanding general U.S Army, Vietnam, via "ham" radio on Tuesday, December 15, at 9:15 a.m. from the Inglis House Ham Radio Club, 2600 Belmont Avenue.

The message will be sent on behalf of Mayor James H. J. Tate and the people of Philadelphia. It will be transmitted by Chester Shipley, Artenas, Pa., who is a resident at Inglis House, home for the chronically ill and disabled.

#### SWAP SHOP

CONDUCTED BY: W3ZRR, Ray Whitehead 7329 Shelbourne Street Phila., Pa. 19111 215 - 722-4786

FOR SALE

- Rhythm maker 16. Plays 16 different rhythms through amplifier.
Sold for over \$200. A must for organ or guitar players. Almost brand new. First offer takes it.

- Black widow mobile transceiver 6146 final 50 watts input. Good condition with power supply. \$100

- Homebrew 6M 2E26 final rig complete with modulator and power supply plus dowkey relay in working condition. A real bargain. \$15

- Ameco Nuvistor Conv. Model CN50W. Brand new 7 to 11 MHz output. Can be changed to any output freq. \$25.

CONTACT: W3GEW, Sid Weiner 2036 Disston Street Philadelphia, Pa. 19149 215 - DE 2-8655

#### FOR SALE

- Polycom 6 Meter Transceiver excellent condition
- G-76 DC power supply
- Drake DC power supply compatible with TR-3, 4 and 6

Will consider swap for AC supply.

- Ameco nuvistor converter 220 Conset 2 meter communicator
- Johnson KW Matchbox
- Heath SB 610 Monitorscope
- Heath RF Signal Generator (16-102)
- Simpson 260
- Ameco Code practice oscillator
- Assortment of tubes including new 4 x 150A (pair) 6146 and other VHF tubes

CONTACT: K3WEU, Faul Behrmann
5101 Wynnefield Avenue
Philadelphia, Fa. 19131
215 - 877-0562 or 877-1007

#### FOR SALE

- H.B. 6M xmtr. 6146 30W out
- B.C. 348 revr. plus nuvistor conv. AC operated
- 3 EU. 6M beam, rotor, and indicator - Mike Make Offer

CONTACT: C. Butera

Day - OS 2-9000 OS 2-2226 Nite - 277-5937 FOR SALE

- 20 db directional coupler calibrated 950 to 2000 MHz, manufactured by PRD Electronics, 431-20 - has "N" fittings \$10

CONTACT: WA3IDQ, Walt Kennworthy 119 Davis Street Philadelphia, Fa. 19127 215 - IV 3-4966

FOR SALE

- Hallicrafter SR-150 80-10 meter transceiver with F.S. and speaker \$275

CONTACT: WA3BIV, Carl Barrish 7948 Thouron Avenue Philadelphia, Pa. 19150 215 - LI 9-6486

FOR SALE

- H.B. 2 mtr. xmit. from 1951 handbook 829-B final, VFO, pwr. supply and modulator. Mint condition - 35 watt novice xmit. 6DQ6 final

-19" rack panel Make Offer CONTACT: Pete Dyson (formerly W9IGU) 226 South 45th Street Philadelphia, Pa. 19104 215 - BA 2-1364

FOR SALE

- Army recvr. R-48/1-TEC8 230 to 250 MHz \$25 - ARC-5/T-2110 - Tecraft 220 MHz converter 10 - Gonset 144 MHz conv. for bdcast band 15 Ford radio 110 vac operated (for above conv.) 5 - 1000 V. power supply - variac controlled with 4 1/2" meter O-1500 VDC; 4 1/2 meter milli-amps; fused, with lights 15 CONTACT: K2TYW, Edward Harper 32 Kirwood Road Gibbsboro, N.J. 08026 609 **- ST** 3-3296

#### WANTED

2 200/250 MMFD variable capacitors
 1 200/200 MMFD variable capacitor split stator. Prefer .04" spacing but .03" spacing okay

OONTACT: W3AJF, Horace Deacon 3019 Midvale Avenue Philadelphia, Pa. 19129 215 - 843-1808

### REFRINT FROM CONGRESSIONAL RECORD (Continued)

Shipley, is one of ten residents at the Inglis House studying amateur radio communications under the direction of Faul R. Behrman, who coordinates the free "ham" radio message center in City Hall Courtyard during the holidays.

This is the first time the Inglis House Ham Radio Club will join with other radio operators in this area to send Christmas and Chanukah greetings to servicemen and women in the United States and overseas. Under Behrman's tutelage, nine of the Inglis students now have their novice licenses and are going for their general licenses. Behrmann said that holders of novice licenses communicate by code which is "great for people with voice difficulties".

All ten members of the Ham Club will be present at the ceremony on Tuesday, and will be available afterwards to send holiday greetings to servicemen and women from the residents of the Inglis House.

Carl E. Cluesmann, executive director of Inglis House, and Mrs. Carabelle O'Brien assistant executive director, also will be present.

Submitted by W3CL, Harry Stein

#### SWAP SHOP (Continued)

#### WANTED

- Heathkit HW-22A 40 meter S.S.B. transceiver

CONTACT: K3RTK, Enos Miller

506 E. Montgomery Avenue North Wales, Pa. 19454

215 - 699-7122

#### WANTED

- Cables and power supply for navy type RBB recvr. (CRV-46147)

CONTACT: W2HF, Herbert Brown Ninham Road, Farmers Mills Carmel, New York 10512

#### GUESTS AT THE FEBRUARY MEETING

WA3DJF, Carl, Philadelphia, Pa. K3LIC, Ron, King of Prussia, Pa. K3RTK, Enos, North Wales, Pa. WA3AQA, Walt, North Hills, Pa. WA3ICO, Harold, Chalfont, Pa. K30ZB, Bill, Dresher, Pa. K3LNV, Elmer, Philadelphia, Pa. ex-K3ZUX, Pete, Philadelphia, Ta.

Susan Forsythe, Moorestown, N.J. 🦠

#### MEMBERSHIP

Applied for Membership (reinstatement) K3GOZ, Herman Klein 2600 Welsh Road, Apt. #39 Philadelphia, Pa. 19152 215 - 464-6553

Applied for Regular Membership Status from Student Status

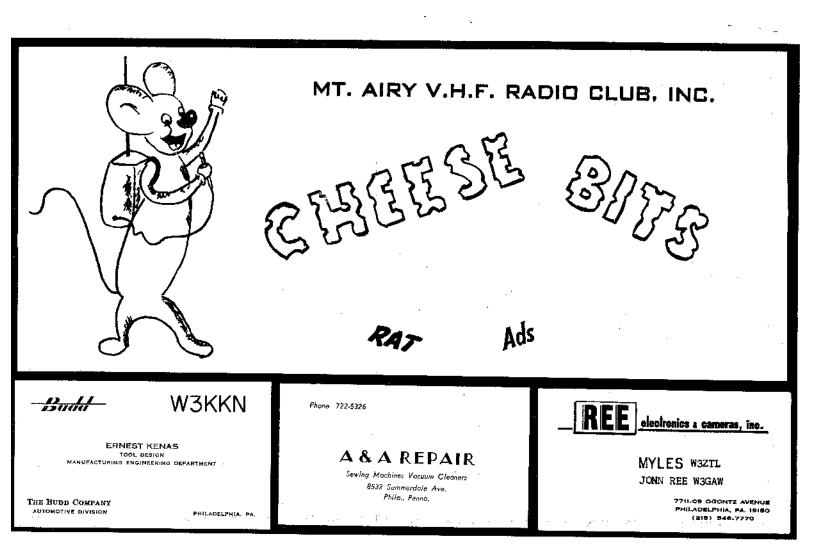
K3VEQ, Joseph Silverman Reiff Road Kulpsville, Pa. 19443 215 - 855-1522

#### Change in Address

WB2NOK, Robert J. Jaep (Bob) XYL Diane 212 Seventh Avenue Haddon Heights, New Jersey 08035 609 - 546-5683

A baby sitter is a teenager who comes in to act like an adult while the parents go out and act like teenagers.

The Ham Monitor



## SAVE THAT CONVERTER (Continued from February Issue)

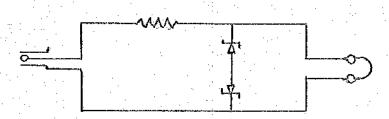
Meanwhile, the Channel 12 situation was drawing to a head. The number of applicants was reduced to two, a Wilmington business firm and WHYY, Inc. Your wife joined a committee whose purpose was to raise funds to acquire Channel 12 for WHYY, Inc. Many such groups were formed at this time.

It looked as if 1963 saw the end of UHF in the Philadelphia area. Channel 17 returned to the air in January but went off in June due to (once more) lack of funds. It would not return to the air under the call of WPCA-TV. Meanwhile, in March, Channel 12 was awarded to WHYY, Inc. The long battle was over. The call of Channel 35 was changed to WVHY-TV so that WHYY-TV could be used for Channel 12. The station was made into a tri-state project. The main studios would be in Wilmington, Delaware. Also, studios would be in Philadelphia with the transmitter tower in Glassboro, New Jersey. September 12 was set as the target date The motto was "12 on the 12th". Because Channel 12 had been awarded to WHYY, Inc., it was decided that Channel 35 would discontinue all night time programs in April. Thus Channel 17 was off the air and Channel 35 had been reduced to its pre-1960 status (day, in-school programs only). When September came and Channel 12 went on the air, Channel 35 simulcasted its programs from 6:30 to 11 p.m. However, by November, Channel 35 went off the air completely. In January of 1964, Philadelphia had no UHF station on the air.

#### BE KIND TO YOUR EARS

Did you ever, during a contest, dig for a very weak station, straining to hear an elusive section, using a hi-gain converter, and the audio cranked way up? Suddenly, your friendly competitor opens up on the frequency with his cruncher. POW - right in the ears! You rise up two feet from the chair, eyes crossed, audio meets dead center in your brain, your nerves are completely tangled. Even the earphones are trembling. This isn't too bad, as long as the black coffee and the papaya juice are handy. But by Sunday afternoon, the papaya juice is gone and so are your eardrums.

Have faith, consider the following circuit. It will help.

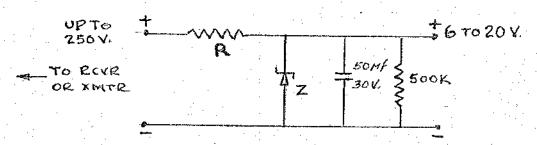


By building the above three parts into your headphone plug all the above problems are eased. The zener diodes connected back to back limit the peak voltages delivered to the ear phones. Try various zeners and resistors to suit your phones and what level you like. Hesistors between 2K and 6K should be OK. Zeners should be the same value. They are made 3.9 volts. 4.7 volts etc. on up. Naturally, if you use higher voltage ratings higher voltages will occur before limiting takes place. One watt zeners are OK. You can mount these in a large size phone plug or in your receiver ahead of the output jack. In any case, this gadget will make operating considerably more comfortable.

W3KKN

### POWER SOURCE FOR SOLID STATE GADGETS

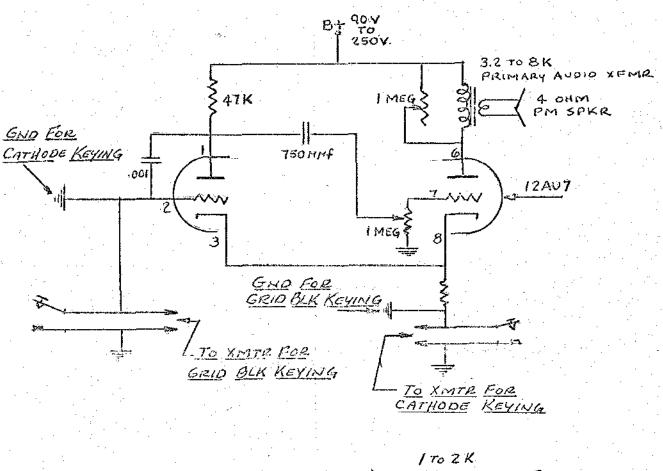
After putting up with the battery mess for some years, the following circuit has been used to power the many transistor preamps, converters, other solid state projects now on the scene. The receiver or transmitter usually has a 150 to 250V source that is used and dropped through the following circuit.

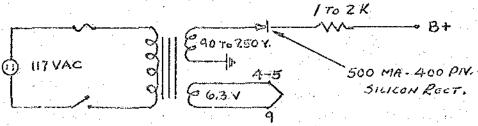


Resistor (R) determined by voltage drop. Select Zener (Z) for voltage desired.

#### C. W. MONITOR

The need for CW is still very much evident as brought out by the last contest activity. Here is another monitor, but its simplicity requires its consideration and it's a one evening project thing.





POWER SUPPLY FOR MONITOR

The schematic is self-explanatory. Volume and tone can be made variable or fixed after value settings are determined.. The power supply can be built or taken from the rig. Whether you build it in a mini-box or in the rig itself is up to you. I expect to mount one inside the Zeus on a small chassis. Sorry it's not transistorized - maybe comeone will submit a solid state version - but, in any event, build it. Thanks to Len, WASFZW for the circuit.

215 893-2140

WYNCOTE, PA. 19095

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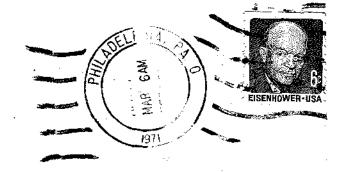
KASS ELECTRONICS DISTRIBUTORS



DISTRIBUTORS OF INDUSTRIAL ELECTRONIC PARTS & EQUIPMENT RADIO - TELEVISION PRODUCTS

2502 TOWNSHIP LINE ROAD (WEST OF LANSDOWNE AVE.)
DREXEL HILL, PA. 19026

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





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

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## MEETING NOTICE

