



HAM HUM

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AK-SAR-BEN RADIO CLUB, INC. - Omaha, Nebr. 68101
Post Office Box 291 - Downtown Station



Vol. XXIV
No. 6

June 1974

NEXT MEETING

- WHEN:** TUESDAY, JUNE 4, 1974
(Note change from second Friday)
- TIME:** 8:00 P.M.
- WHERE:** FITZGERALD FRIENDSHIP ROOM,
COMMERCIAL FEDERAL SAVINGS AND
LOAN ASSOCIATION
4724 South 24th Street, Omaha
(Free parking in rear off 25th Street)
- WHAT:** PROGRAM by Lewis G. McCoy, WIICP, Beginner and
Novice Editor QST, and ARRL Staff, and Paul Grauer,
WØFIR, Director Midwest Division ARRL, who will
give us up-to-date information on repeater regulations as
well as any subject desired by the audience.

REFRESHMENTS – EYEBALL QSOs – VISITORS WELCOME

TRANSMITTER HUNT – MAY 19, 1974

By – Bob Lockwood, WAØDHU

The crew manning the hidden rig consisted of Lowell Jackson, WAØHKT, and Bill Terwilliger, WAØFPB. They hid under the interstate bridge at about 64th Street. They had a ball pulling little tricks to make things rough for the seekers. They did such a good job that it took 1½ hours to find them.

WBØMAH, Bill, WBØMMC, Jim and Doug were the first to find the hidden rig. They parked their car about a mile south of the interstate bridge and hiked up a creek bed to the site. Our thanks goes to Al McMillan, WØJJK, for a ten dollar gift certificate from Hobby Industry.

WBØMAH and his crew will be the operators of the next phantom rig. The date is set for Sunday, July 14th, at 1:30 P.M. on 146.94 MHz.

HAM HUM is the official organ of the Ak-Sar-Ben Radio Club, Inc., of Omaha, Nebraska, mailed monthly to all members and to others upon request.



Next copy deadline: June 21st

Annual Dues:

Regular member \$7.50
 Regular member and XYL 9.00
 Student member 3.50
 (due and payable each Jan. 1)

AREC

Your AREC is on the move with a series of training sessions conducted by the Red Cross for survey teamwork. There has been a good response from AREC members with very good attendance at these meetings. If we are trained, we are better communicators.

Your AREC is also working on the sky watch, cooperating with the weather bureau by setting up a parameter net in case of a tornado. If according to radar indication a major cell moves into the area, the weather bureau would call us to set up this net. Its purpose is to advise of funnel clouds, tornado, large hail or damaging winds.

KØIPV, Roy Kaiser, who is a retired police dispatcher, volunteered to be NCS during the day or when your EC is not available. He is a good man for the job. W5GAQ, Claude Sauvain volunteered as an alternate.

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AK-SAR-BEN RADIO CLUB, INC.

Post Office Box 291

Omaha, Nebraska 68101

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New member initiation fee \$1.00
 Quarterly for balance of year:
 Regular member \$2.00
 Regular member and XYL 2.45
 Student member 1.00

The new updated calling list will be available at the June 4th meeting for AREC members. Our thanks to Dick Eilers, WØYZV, and his secretary for making the copies.

Don't forget, the Douglas County AREC net meets each Tuesday evening on the WRØABQ repeater, 146.34/94 at 8:00 P.M. Please check into this net and be up to date on activities of your AREC.

Thank you for your participation.

WAØDHU, Bob Lockwood
 Douglas County EC

WANTED

40-foot (minimum) free stand tower. Will trade 80-foot crank-up tower or cash deal. Contact: Bernie Chap, 4652 Harrison, Omaha, Nebraska 68157, phone 731-0128.

MAY MEETING

The May meeting was a very interesting discussion and demonstration by Dr. Charles F. Slagle, Professor of Chemistry, Buena Vista College, Storm Lake, Iowa.

Prior to the meeting Dr. Slagle established his equipment for the crystal growing demonstration. The equipment was very interesting in that it was home brew. The furnace was constructed in a gallon paint can and consisted of a cylindrical heating element and insulated from the outside of the can with vermiculite. The furnace heat is controlled by computed amperage rather than by thermometer. The material from which the crystal is grown is held in the furnace in a porcelain cup. Simply stated, the principle of the machine is to lower the table on which the furnace is established very slowly while at the same time withdrawing the crystal from the surface of the melted chemical with a heat-sinked rod. This rod is slowly revolving and was previously prepared with a small bit of the material (seed crystal) on its end.

After getting it started and because of the fact he was talking to us away from the furnace, heat got out of balance and thus the continuity of the crystal was spoiled. However, the demonstration was sufficient to show the group how it is done and Dr. Slagle passed around a completed sample he had made the day before. In order to grow this crystal it is necessary to be in constant attendance so as to keep heat of the furnace in balance with the heat sink so the crystal will form on a continuing basis. Because of the fact

this particular crystal would take 45 minutes to an hour of constant attendance to grow to a suitable size, say one-half inch in diameter and one inch long, it would be very helpful if one also had a hobby of listening to symphony music.

The crystal grown for this demonstration was (I think he said) potassium bromide (but I am not a chemist). This is not a crystal that is used in making transistors but because of its more rapid growth and lesser expense can be used for experimentation.

During this process Dr. Slagle was explaining the chemical principles upon which the transistor is based and explained the use of impurities in the pure crystal that would result in the negative and positive types. As a suggestion for a way to visualize the fact, the electrons in theory pass through the material in one direction where the holes pass through the material in the opposite direction according to whether it is N or P material. He suggested we visualize a 3-inch piece of glass tubing filled with water and drop pearls down into it. They would travel through the water in a downward direction and would represent the electrons. If you visualize the tube again filled with water and let air bubbles in the bottom, this would represent holes going in an upward direction. If you think I am going to tell which tube represents the N material and which tube represents the P material you are wrong, as about this time I get a little confused. I do remember, however, that a piece of N material adjacent to a piece of P material becomes a diode and that the transistor is composed of

three such layers and becomes either a NPN or PNP transistor in accordance with the desire of the maker and selection of materials.

Dr. Slagle's particular area of research is in areas of impurities that cause these crystals to become either N or P. If the inserted impurity carries more electrons than the crystal material, the electrons move through the material with the current but if the impurities carry less electrons than the crystal material, the holes are caused to move by the opposite current.

Please do not use any of the above for educational purposes as your writer has not sufficient knowledge of chemistry or electrons to give you a complete treatise on the subject but only sufficient knowledge of both to state that Dr. Slagle gave us a very interesting talk and demonstration. If you desire more information, start with the radio amateur handbook and get in touch with some of our members, such as President Rip who, incidentally, could not be at the meeting that evening because of illness.

Dr. Slagle also told much about the manufacturer of integrated circuits with the squeezing of many such devices such as transistors into one chip for the purpose of doing any of a number of jobs in electronics. He had with him some examples of integrated circuits from which he had removed the cover so we could see under a microscope the chip itself.

At the end of his talk, at the request of WØYZV who by coincidence happens to be the Chairman of the Board of Trustees of Buena Vista College, Dr. Slagle did give a small pitch for Buena Vista and brought out

particularly that this small liberal arts college can accommodate students who have more than the usual interest in any subject and allow them to pursue that subject and thus get a good foundation for continuing studies. Having just returned from the commencement exercises at the College, I had further evidence of this since the Distinguished Young Alumni Award (awarded to the outstanding graduate who has been out of Buena Vista less than ten years) went to a young man in Omaha who is head chemist of the OPPD Atomic Power Plant at Ft. Calhoun.

FIELD DAY 1974

Make plans now to join in the fun by participating in Field Day - June 22 through June 23 - at the Bowen farm south of Papillion. Map included in this issue for directions to reach the site.

If you have not been contacted by the Field Day Chairmen, we still need you so come out anytime between noon Saturday through afternoon Sunday. If you can't come out and work, come out and visit. The eyeball QSO is an important part of Field Day.

Weather forecast: watch Russ Minks. If he remembers to bring his hat, it will be cloudy and raining. If he forgets it again, the sun will burn the top of his head again.

See you there!

NOTE FROM SIDNEY

We read it and appreciate it.

Western Nebr. VO-Tech ARC
Charles C. Hay, WØLCE

LETTER OF APPRECIATION

We quote from copy of letter of appreciation recently received:

May 6, 1974

To: Head Principal or Administrator
Creighton Prep High School
7400 Western Avenue, Omaha

Dear Friends of Amateur Radio Hams:

In behalf of the General Class recently held from January 7, 1974 through April 15, 1974 at Creighton Prep, we extend our heartfelt thanks to the school and staff who made the space available to us at no cost.

The attached sheet lists the names of those in the Radio Ham General Class who were present the last evening, April 15th. There were some absent for some reason or another, but I am sure they too extend their thanks along with ours.

We really do appreciate the use of the building during this 4-month period of time when heating, light, and two classrooms were made available for amateur radio operators to be to pursue this interesting hobby through your generosity.

Please convey to all concerned our feelings and thanks and, of course, we students appreciate the volunteer teachers who gave their time and knowledge to share with us this valuable experience.

Sincerely,

(signed Dewaine F. Beam)
For General Class

R. W. Harper
John Z. Curran
James J. Miller
Robert J. Felling
Alb. M. M. M. M.
Signatures of Amateurs
Thyl S. Barba
Thomas W. Kelley
Jon Penney
Dewaine F. Beam
Don. Judd
Paul Garrett
Steve Smith / W4EJ
Lynne Longstrech
M. J. St. J. Co.
Margaret Kelly
David W. M. Farrant
Eddie R. Lillay
Tom Novak
Bill D. D. D.

RECENT CONTRIBUTORS

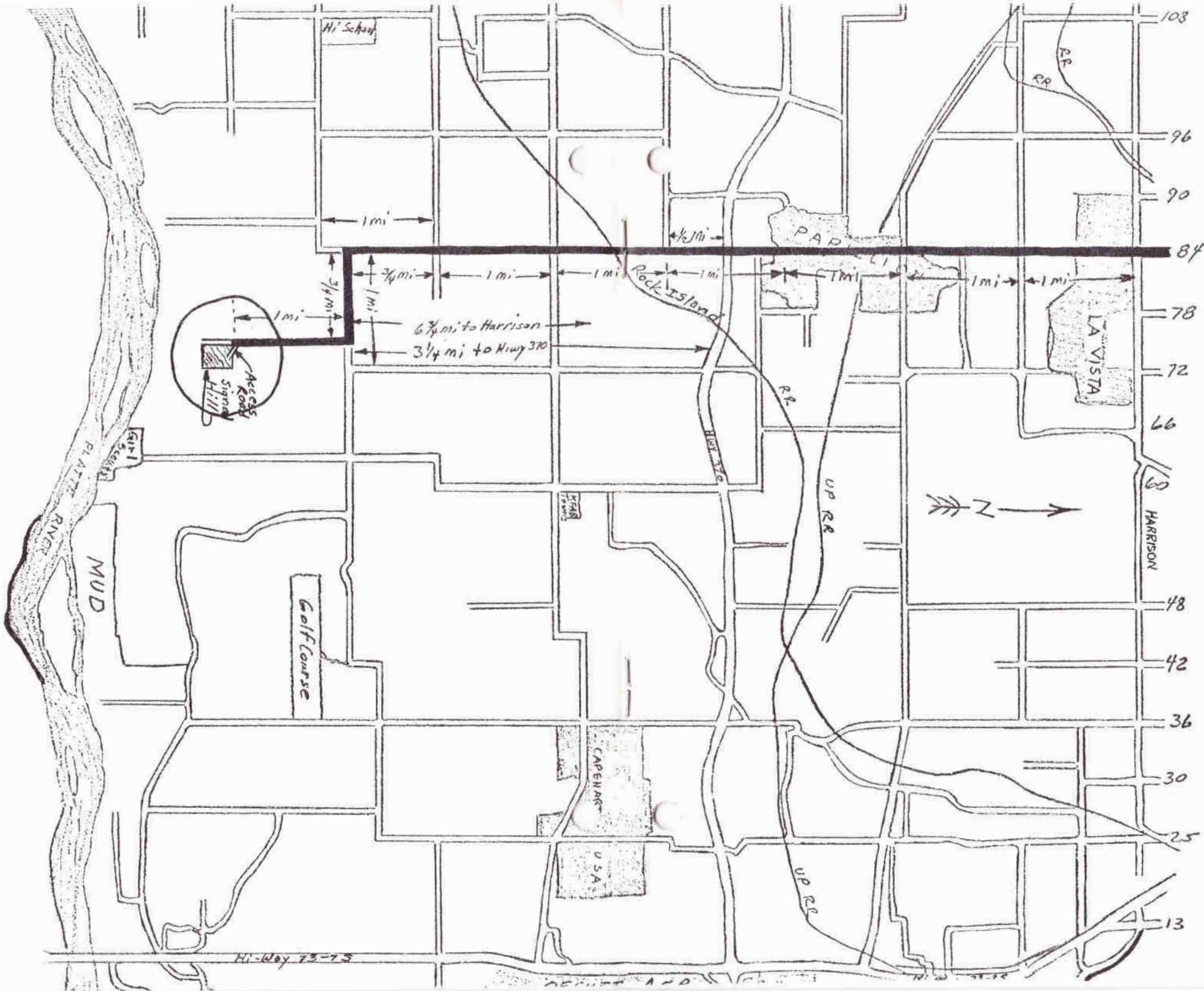
Repeater Fund

Charles A. Michel, KØQVL
Chester L. Doll, KØPTG
Harold F. Jacobs, KØJBC
Harold F. Layher, WAØPCC

Autopatch Fund

Larry V. Donnelly, WØKCK

Many thanks for your contributions. Thanks also to Robert D. Andrus, KØLUG, who donated articles sold at the auction with the proceeds going to the repeater and autopatch funds.



Ralston

LOCAL HAMS CONTRIBUTE TO SUCCESS OF BLAIR FESTIVITIES

By Don Filbert KØAJO

When Blair, Nebraska staged its annual pre-Memorial Day parade on May 26, amateur radio helped play an impressive part in the ceremonies.

Parked in front of the reviewing stand with his mobile rig, local ham operator WØBNY (Al) introduced Nebraska's Governor James Exon and other dignitaries to regional members of the two-meter fraternity. Broadcast through the Omaha repeater, the 30-minute exercise demonstrated effectively the practical use of this modern communications medium.

Coordinated by WA7VIL (Mel), who performed an outstanding job as acting net control, more than 20 hams offered their well-wishes to the city of Blair and to its honored guests.

Speaking on behalf of the Ak-Sar-Ben Radio Club and its 175 members, President Rip (WBØGAJ) extended a warm greeting to Blair citizens and public officials attending the festivities.

Other Omaha hams who joined him in expressing similar sentiments included WØRMB (Cecil), WØNMN (Larry), WAØDHU (Bob), WBØGQT (John), WBØDDZ (Randy), WAØRJR (George), WA3MKT (Rick), WBØMMC (Jim), WØOXT (Gary), and WØOCZ (Nat) — operating either mobile, portable, or from base stations.

Personal 73's were also voiced by WAØHNW (Hoss) from Lincoln; by WBØBNV (Al) from Cedar Creek; by WAØRGV (Mark) from Ashland; by WØNVE (Harry) from Fremont; by

WBØGQM (Vern) from Cedar Bluffs; by WAØVEE (Russ) from Mead; and by WBØBCB (Ed) from Two Rivers.

And, from the neighboring state of Iowa, KØAJO (Don) and WAØVPT (Jerry) broke in to likewise wish Blair citizens their best regards.

No stranger to ham radio (having been licensed as WØCYG in the early 40's), Governor Exon responded to the tribute with his sincere thanks and lavish praise.

"I would like to take this opportunity to say 'hello' to all my ham operator friends across the state," he replied. "At the same time, thank you for the great service that you perform in times of need. Certainly, as far as Civil Defense is concerned, we recognize that the ham operators are the ones who do a tremendous job, and I thank you for it."

Echoing these sentiments, Mayor Alfred Sick of Blair acknowledged: "Your services are invaluable to us whenever we have an emergency." Also expressing his gratitude was Washington County's Civil Defense Director Roy Brown.

It is doubtful if more than a handful of those attending the Blair festivities were personally aware of this over-the-air exchange which took place while they were watching the colorful parade.

But — while simply a practice drill and playing only a minor role in the day-long ceremonies — it demonstrated dramatically the willingness and ability of amateur radio operators to marshal their forces should some real emergency require their swift mobilization for the public good.

REGULATED POWER SUPPLY

By Russ Minks, WA0VEE

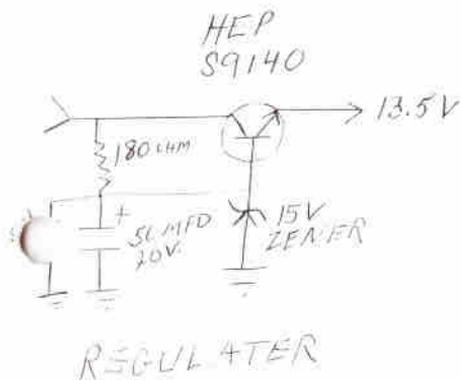
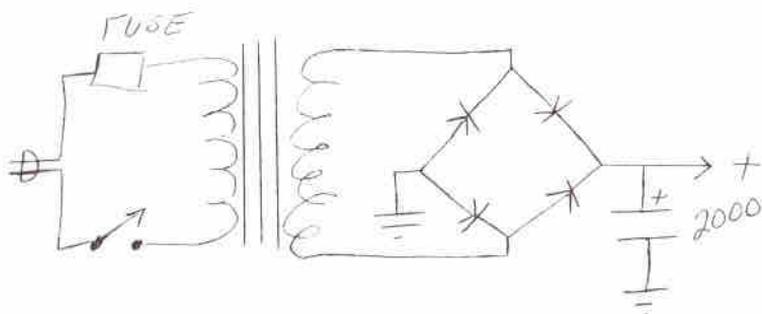
If you pull your 2M rig out of the box at night or when you are not using it, it makes a nice base station if you have a power supply.

A regulated power supply is easily made. For a 10 watt transistorized unit, a 2 or 3 amp transformer, a bridge rectifier made of 4 separate diodes or an encapsulated bridge rectifier, a 2000 mfd or more capacitor and the regulator shown, will make a very good power supply.

The regulator uses a HEP S9140 which is a darlington pair in a TO-3 case. It has a gain of approximately 1000 and a current capacity of 5 amp.

It shouldn't be used at 5 amp but if more than 3 or 4 amps are needed you can parallel 2 or more. Since it is a darlington pair the zener you use will have to be approximately 1.2 volts higher than the output voltage you need because of the drop in the two bases of the pair.

The S9140 should be mounted on a heat sink. If you can adjust the input voltage to the regulator you can help it to run cooler. If the input voltage is only a couple volts above the output voltage at maximum output current, the regulator doesn't have to dissipate as much power.



Another advantage it gives you is filtering. Besides being called regulators, these circuits are also called electronic filters, capacitance multipliers, etc. So, besides the advantage of regulation you also get additional effective filtering.

I have put this article together this way so you can tailor your power supply to suit your needs. I have one I use to run my mobile rig as a base station and it works very well.

CITATIONS

It has come to our attention that some citations have been issued for improper identification of portable or mobile operations. Part 97 Amateur Radio Service, Subpart D Operating Requirements and Procedures, paragraph 97.87 Station identification states: (b) "When an amateur station is operated as portable or mobile station, the operator shall give the following additional identification at the end of each single transmission or exchange of transmissions: (2) When identifying by telephony immediately after the call sign, transmit the word 'portable' or 'mobile,' as appropriate, followed by the number of the call sign area in which the station is being operated."

Improper identification:

WBØBCB mobile

Proper identification:

WBØBCB mobile zero.

De WBØBCB, Ed
Valley, NE

OMAHA REPEATER WILL BE SILENCED!

What! Closing down the Omaha repeater? If that thought caused you any concern, then reflect on this fact:

The only way this "booster station" can be financed and updated is by the voluntary contributions sent in by those of us who use this facility. Are you paying your fair share?

If not, you are simply getting a "free ride" at the expense of your fellow two-meter hams!

Don't you agree that one dollar a month is a bargain price to pay for the

enjoyment provided through use of the Omaha repeater?

If each of us were to contribute this small amount regularly, it would provide the necessary funds required to maintain and modernize this equipment.

Your support is also needed to finance the Council Bluffs repeater. If you are mobile, and needed to make a phone call, you would gladly pay 25¢ for this privilege. But this phone-patch service is made possible only by the voluntary contributions which help underwrite that cost!

No . . . there is no plan, at this date, to close down either of these repeaters. But it *could* happen if we failed to receive your continued financial support!

Won't you help? Make your check payable to the Ak-Sar-Ben Radio Club and mail it to the address shown on Page 2 of this issue of Ham-Hum.

(Written by Don, KØAJO, and supported by generous contribution!)

FOR SALE

Used working AM transistor car radios removed from salvaged cars - \$3.50 each.

WANTED

Used tower and rotor.

Glenn Pollock, WAØFMY
6736 Laurel Avenue
Omaha, Nebraska 68104
Phone: 571-6230

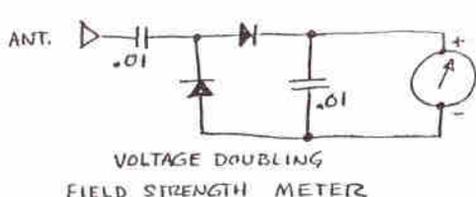
WANTED

VFO with 160 meter output.
Vibroplex bug or electronic key paddle.

Craig Hinton, WBØIAH
Phone: 333-9521

Ham Hum;

We really appreciated the article on the RF Activated "ON THE AIR SIGN." For those who don't want to go the full route, they can make up a Field Strength Meter arrangement from the same unit merely by putting in a 50 or 100 micro-amp-meter where the first transistor is located. See the sketch below;



ALSO GOOD FOR
CLOSE-IN TRANS-
MITTER HUNTING,
USING 50 μ A Meter.

Bob Andrus, KØLUG

4116 N. 100 St., Omaha, NE. 68134

MEMBER NEWS

Dear Ham Hum:

Sorry I have not written sooner but I have been busy. In January of last year I was hurt in a gunshot accident. This cut short most of my activities but I am getting better. I am very thankful for ham radio. This is as good therapy as I know of. My Drake TR-22 is just great. I am living at a nursing home for convenience and medical care. I hope to have my own home

equipped with ham shack soon.

I enclose a check for the repeater fund. The nurses still look at me funny when I lay in bed talking to myself.

I wish someone would write up a story of our repeater activities a layman would understand. I'll take a thousand copies. With that request I'll say 73s to you all.

Charlie, KØQVL

FOR SALE

- Galaxy 5 MK II w/AC supply, mint condition, new tubes and realigned at factory.
- Collins receiver 75 S1 w/noise blanker.
- Linear Amp 4-1000A professionally built to military specs. Jennings vacuum variables. Variactor control power supply, no band switching, continuous tuning 1.8 to 30 MHz, many extra features, contest type.
- Heathkit Apache TX 1 w/SSB adaptor, mint condition, 180 watts pep.
- Galaxy FM 210 12VDC only.
Crystals 16/76, 34/94, 94/94.

Jeff May, WØOMN, Lincoln, Nebraska

Call day: Omaha 333-0850, Ext. 326

Eve after 7 P.M.: Lincoln 477-9816

HRT-2

HAM HUM

Regency

1&2 WATT-5 CHANNEL
FM TRANSCIVER

Size: 3 $\frac{3}{16}$ x 1 $\frac{1}{16}$ x 9 $\frac{3}{4}$



BASIC UNIT (LESS BATTERY) \$179.00

includes factory installed transmit and receive crystals for 146.94 MHz.

INTERMEDIATE PACKAGE \$229.00

includes MA-50 Nicad battery and factory installed transmit and receive crystals for 146.94 MHz.

DELUXE PACKAGE \$295.00

includes MA-50 Nicad battery, BC-101 Battery Charger, MA-30 Flexible Antenna with adapter, MA-58 External Mike, MA-54 Leather Carry-Case, MA-52 Earphone, MA-29 DC Power Cord with cigarette plug, and factory installed transmit and receive crystals for 146.94 MHz.



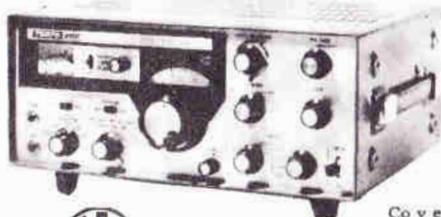
Proven Kenwood quality and reliability

completely self contained TS-520

A do everything, go anywhere
5 band rig for SSB/CW.

\$629.95

The rig you wanted, but could not buy—UNTIL NOW! Equally at home in a HOME, CAR, PLANE, TRAILER. The TS-520 fills the application, and it has the famous KENWOOD quality and reliability most amateurs can afford. Here are many reasons you'll be glad to own one: 200 watts on ham bands—80/10 meters, built-in 12VDC and 120VAC supplies, 1kHz readout, VOX/PTT, noise-blanker, 25 kHz calibrator, 8 pole filter, break-in CW & sidetone solid-state except 6146 type finals ALC, USB/LSB, speech processing, WWV reception, built-in fan and speaker, tune position, TVI protection, provisions for external vfo and VHF transverters, full metering—and LOTS MORE!



AL - W4JJK

TEMPO "ONE" transceiver \$375

Modern design, superb performance, high styling, sturdy construction, outstanding reliability and truly EXCEPTIONAL VALUE!

Covers 5 bands, 80 to 10 meters, with a power input of 300 watts SSB/PEP, and 240 watts CW. Stable vfo with 1kHz readout and less than 100 Hz drift/30 min. after warm-up. 2.3kHz selectivity with 1.7:1 shape ratio selectable sideband, vox/ptt, calibrator transmitter ALC, receiver AGC, sensitivity 1/2 uv. for 10 DB S/N, receiver OFF-TUNING, cw SIDETONE, unwanted sideband down more than -50 DB, provisions for remote vfo. GREAT MOBILE OR FIXED STATION.

TEMPO/ONE Transceiver \$375.00
AC/ONE Supply (115/230V) \$105.00
DC/ONE Supply (12V) \$122.00



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MAIL TO BOX 864, PH. 323-0142

STORE HOURS ARE: TUES.-WED.-FRI. NOON T. 5 PM.
THURS. NOON TO 8 PM & SAT. 9 AM TO 5 PM.