



HAM HUM

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October 1973

NEXT MEETING

WHEN: FRIDAY, OCTOBER 12, 1973

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)

PROGRAM: A SURVEY OF THE ELECTROMAGNETIC
SPECTRUM
BY VERN RIPORELLA, WBØGAJ.

We will be looking at the radio portion of the spectrum anywhere from DC to 1 gigahertz. This will be a live demonstration of monitoring and study of actual radio signals. The spectrum analysis equipment Vern will use is in itself of great interest. Its cost is about the same as its frequency capability!

DON'T MISS THIS ONE
VISITORS WELCOME

REFRESHMENTS

EYEBALL QSOs

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.



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AK-SAR-BEN RADIO CLUB, INC.

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REPEATER LICENSING

The following paragraph is quoted from the ARRL Director's letter of September 11, 1973:

During a meeting recently between members of the Amateur and Citizens Radio Division of FCC and our own staff, one of the subjects discussed was an extra heavy workload caused the Commission by incomplete or erroneous applications for repeaters and other remotely-controlled stations. A set of supplementary instructions and worksheets had been prepared informally by their staff, but not yet started through the budget approval process -- which often takes months. There being mutual agreement as to the desirability of assisting applicants as quickly as possible to prepare complete and adequate filings, the material was informally made available for us to publish and distribute. These are in no sense FCC official documents, but we do know their use will facilitate processing of applications,

particularly when FCC has returned the application for additional information.

HAM HUM has a set of this material or additional sets are available by sending a stamped envelope to ARRL Headquarters.

MEMBER NEWS

Don Schwalm's call has been changed from WNØHGC to WBØHGC. Congratulations, Don!

It's been reported that the FCC plans a nationwide crackdown on CB misuse of 11 meters, due in part to so many government officials being made aware of their current failure to keep the band legal. \$300 fines and license loss will be common during this drive. How does the FCC revoke/suspend the license of unlicensed stations? That should be a good trick!

de LERC Bulletin



1973 HAM FEST AND STEAK FRY

The annual Ham Fest and Steak Fry of the Ak-Sar-Ben Radio Club was very enjoyable in spite of the inclement weather. The Missouri Valley Park shelter (picture 1) kept most hams, XYLs and harmonics out of the stream. The pitter-patter on the metal roof reminded many hams of the "skip" coming in. Hi! But awaiting all who ventured across the wide Missouri was a Nebraska City beefsteak.

Ed Askew, WAØRDZ, and Charles Kelly, WAØUZX, and company are to be commended for their diligence, effort and coordination of a very successful Ham Fest. You see them at their best in pictures 2, 3 and 4. The Ak-Sar-Ben Radio Club's hospitality was not to be denied.



THE MULTIPLE SCLEROSIS 50 BIKE-A-THON

More than 250 bike riders left Boys Town at 9:00 A.M. on Sunday, September 30, 1973, to kick off the 1973 Multiple Sclerosis Bike-A-Thon. The riders followed a path from Boys Town to 144th and Pacific, west to Highway 31, north to Highway 36, west to Elk City, south to Waterloo, and back on the same route to Boys Town for a total of 50 miles.

The Ak-Sar-Ben Radio Club supplied radio communications between check points for this event. Net control was set up at Boys Town with WAØGED, Dave (assisted by Paul Bancroft) doing a great job operating the net in a well-organized manner.

Roving mobile units were assigned to give assistance to the riders such as, adjusting bike seats, tightening bolts and nuts, pumping up bike tires, etc. Those participating were: KØQXO, Dennis; KØDXU, Jim (helped by Brian Bryant); WBØDLM, Bill; WØGOJ, Frank; WØYCP, Jim; WAØDGA, Harold; WAØGEH, Marty; WAØODH, Lynn; WAØDHU, Bob; WAØIWF, Frank; WØRMB, Cecil; WBØDEK, Jerry; WBØDDZ, Randy; WBØDRS, Don; KØQVL, Charlie; WAØGAJ, Ripp; WBØGAI, Roger; and WØEGP, Fred.

Between 175 and 200 bike riders completed the 50-mile course. Sponsors pledge donations for each mile covered by the cyclists which resulted in approximately \$9,500.00 to help in the fight against Multiple Sclerosis.

Among the bike riders were WA3MKT/Ø, Rick and WBØGOM, Pete who operated mobile during the bike-a-thon. The last rider to complete

the course was Tom Scott, 4925 North 65th, who was followed by WØRMB. In view of the inclement weather (at times a driving rain), the bike riders and the hams who participated in the Bike-A-Thon are to be commended for their fantastic efforts and for a job well done.

Two identical cars were driven 1000 miles from Hamburg, Germany to Rimini, Italy to compare results of driving at both reasonable and maximum possible speeds. Both cars were instrumented to record every driving detail. The speed demon averaged 49.5 mph during the 20 hours and 12 minutes trip. He passed 2004 cars and was passed by 13. He used his brakes 1339 times, including 4 panic stops. The driver who proceeded at reasonable safe speeds averaged 48.9 mph (0.6 mph slower), passed 645 cars, was passed by 142 cars, completed the trip in 20 hours and 43 minutes (31 minutes longer), and used his brakes just 652 times (687 less). A West German motoring club doubted the results of the AAA test so they ran a similar test between Cologne and the Brenner Pass. The results were comparable and the slow car made the trip in just 21 minutes more than the 16 hours and 52 minutes used by the speeding car. There's little to be gained from speeding and lots to be lost - including reduced gas mileage, risk to others, extra brake wear, unnecessary car abuse (to tires, engine, suspension, etc.), and possible injury or death.

de LERC Bulletin, Burbank, Ca.

ANSWER TO WØYZV

By Cecil DeWitt, WØRMB

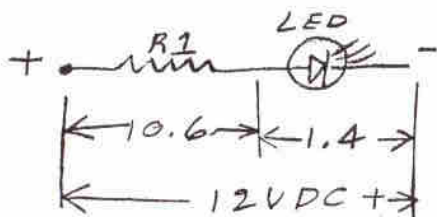
WØYZV asks how to replace those little pesky lights on his scanner with LED (light emitting diodes).

LED is a chip of solid state material that will emit light when DC is applied. Like many other diodes it has a zener effect when voltage is applied. As this voltage is increased so also does the current. When the zener effect takes place the voltage no longer increases BUT the current does and with it the wattage increases greatly. This wattage would soon destroy the diode junction.

To replace a heating type lamp with a LED is to simply install a LED in the correct mounting and with the correct voltage and with CORRECT CURRENT.

Mounting can be in several ways. The easiest way is where they fit the spaces from which the lamps were removed. Murphy's Law* gets in the way most of the time so the small LEDs have to be enlarged so they don't flop in the holes. Heat shrink tubing can be shrunk over the LED and then fit in the holes. A small washer can be made of heat shrink tubing and fit on either side of panel to keep the LED from a loose fit. Another way is to epoxy the LEDs in the holes.

LEDs are 1.4 volts (+ or -) so if the original voltage is 12 volts we have to install a resistor to waste 10.6 volts. If the LED needs 1.4 volts at 11 ma, we will subtract 1.4 volts from 12 volts or 10.6 volts. General range of LEDs fall between .6 to 2.5 volts DC.

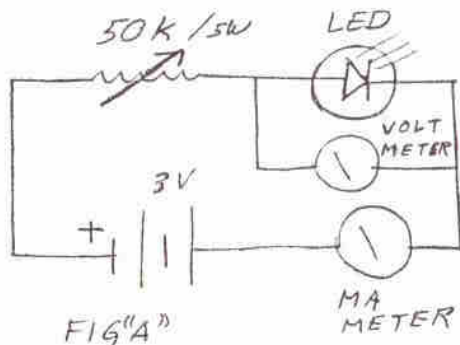


The 10.6 volts is what we have to waste, so using ohm's law

$R = E \div I$ we have $10.6 \div 11 \text{ ma}$,
 $R = 9636 \text{ ohms}$. The wattage of the resistor again goes to ohm's law
 $W = I \times E$, $11 \text{ ma} \times 10.6 = W$ or .00011 watts.

R1 then is a 9636 ohm resistor with .00011 watt rating, so using the wattage of standard, easy to get values, we have R1 as: 10 K ohm 1/2 watt.

This is very good when we know the voltage and current, but what if we don't know these factors. A few simple tests and simple equipment will give the information we want.



With the best circuit Figure A, we are able to run a curve as shown in Figure B. The graph uses .2 volt steps

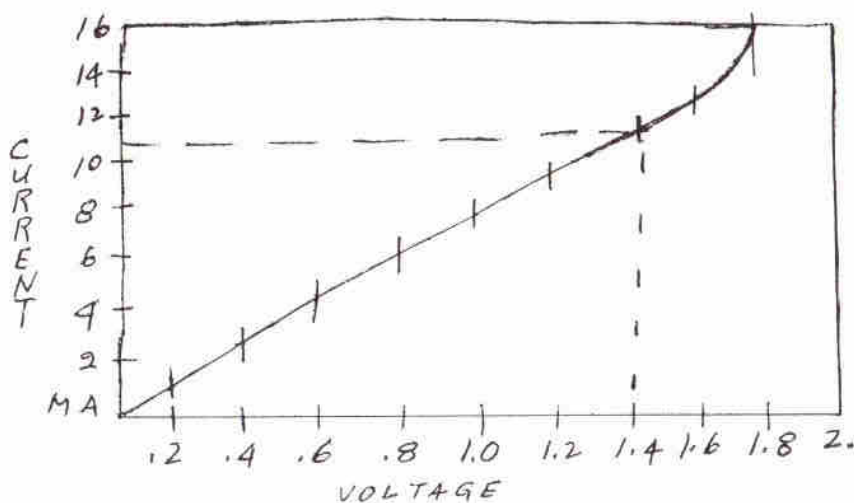


FIG B

and the curve is plotted from there. The zener effect has taken over at 1.6 volts and the current goes up sharply after that. So it is best to back the voltage down and this is what the graph shows, 1.4 volts at 11 ma. With these values we can now find the value of the dropping resistor.

Check several LEDs because even from the same batch there may be wide difference. Good luck, Dick!

*Murphy's Law: Anything that can go wrong, can and usually does at the worst time. Take HEAD, Dick!

WORTH REPEATING

The April issue of QST has an excellent article by Walter Maxwell, W2DU/W8KHK which sets the story straight on the matter of low VSWR on antenna transmission lines. No, it's not a spoof. He has been designing antenna systems for the US government and RCA since 1940, and designed some of the antennas used in our space program.

He points out that standing wave ratios as high as 5 to 1, or even higher, do not cause much power loss in open

wire line, OR IN COAXIAL CABLE OF THE TYPE USED BY HAMS. Very often, if the transmitter output has sufficient reactance tuning range, the antenna can be tuned FROM THE TRANSMITTER to cover a wide band of frequencies, and do it with reasonably high efficiency.

This article is well worth the price of membership in ARRL, in case you are not already a member.

de FRESNO SKIP

OPEN LETTER TO ALL AMATEURS

By Larry Price, W4DQD,
Director S.E. Division ARRL

As you may know already, the FCC has proposed the taking of a portion of our 220 MHz amateur band to set up a new Citizens Band, to be called the Class E CB band! Frankly, I am shocked that the FCC would give serious consideration to a proposal that would set up a new CB band at all, but to propose taking frequencies away from law-abiding amateurs to set up such service is, to me, completely unthinkable. Yet that is exactly what the FCC is considering doing. *We must not let this happen!*

Vice Director Roux and I have just returned from a meeting of the League's Board of Directors. We unanimously voted to do everything in our power to stop this unwarranted attack on an amateur band. Be assured that the League will use all available resources to retain our amateur privileges and frequencies. If it should become necessary, we are committed to using both judicial and legislative channels in this matter. But we need your help too! First of all, please read the editorial on page 9 of the August, 1973 QST which discusses the basic situation we find ourselves in. The full text of the proposal begins on page 88 of the same issue. Background information on the League's opposition is on page 81 of the April, 1972 issue of QST.

Help us oppose this Docket 19759 by writing to the FCC. Don't just register your opposition; send facts to the FCC on why we should retain our privileges and they should not be used

to create a new CB band in the 220 MHz amateur band. If at all possible, send the FCC the 14 copies they ask for. Yes, I know that's a lot of duplicating I am asking you to do. Surely it's worth it because this puts a copy on the desk of each of the seven FCC Commissioners and each of the heads of major FCC bureaus. Send your letter to:

Federal Communications Commission
Washington, D.C. 20554

and mark your paper at the top, "Docket 19759." It would also be a big help if you would send a copy along to me and to League Headquarters.

This must be a group effort to be successful. Give us all a hand in stopping this outrageous proposal.

It may well be that later on we will want to contact our Senators and Congressmen to make sure that they are informed on all of the aspects of this proposal. I don't think we should do it just yet. For right now, while this is still in the preliminary stage, let's concentrate on the FCC directly. If it becomes necessary, I will send you another special news bulletin later on. In the meantime, a good source of timely information on late-breaking developments will be W1AW bulletins.

Let's all pull together on this one!

de Florida Skip

FOR SALE

Motorola T-43 GGV with private line
1 channel 34/94 complete with
control head, cables, speaker and mike
- \$65.00

Call 731-4482 on WEEKENDS ONLY.

Jerry Coufal, WBØDEK

"CLUB MOTIVATION

Guest Editorial by

Elwood Thompson, W8ZUQ, V.P.

There is one problem in every organization regardless of how many members the organization has in it. This problem is motivation of the group and individuals. In DARA's case, it is club motivation. How do the officers of the club get the members motivated? First: each officer should look at himself, the job he is doing, and the influence he carries with other members. Secondly: he should then analyze what he has found, and examine closely to see if he has given himself the right objectives for his office. Each officer should do this in a detailed manner.

After examining himself, each officer should learn to be a critic when necessary. This means not only telling someone when he is letting up on his job, but praising members who carry out a duty efficiently and effectively. This is *brotherhood*. If this is put into effect with the officers, the spirit will carry through to the members. Sometimes it means "stepping on someone's toes," but remember, when one member doesn't do his job satisfactorily, he is hurting the membership as a whole.

The officers, as a group, should continually work together, not carry the whole load, but making sure that the membership is carrying it's share of the task. The main reason that a member develops a poor attitude is that he has nothing to do. *Every member should have a job*. He should be assigned a job at the start of the year and made responsible. When he is given a job of which he is thought to

be capable...he should be told what needs to be done and then drop the subject. If he needs help, he should get it. Don't do the other member's job unless he asks for help. If help is needed, the members as well as the officers should be more than ready to jump in and help. *This is brotherhood.*

Along these same lines, remember that if one member has too much to do, there is a distinct possibility that another member doesn't have enough to do. Having too many responsibilities causes the same effect as nothing to do. Too many duties on one member puts that member under strain and pressure. If the situation continues, he may break and will no longer help the club. Also remember that one member's poor attitude and motivation can influence other members.

Club motivation cannot be given by one or two members; it must be earned through the efforts of every member. Each must use his potential to the utmost. Helping to develop this potential must be an objective of the Executive Committee and put into progress. This takes club organization, direct lines of authority and responsibility, and a unified goal of brotherhood.

de RF Carrier, Dayton, Ohio

FOR SALE

2 meter transverter for SSB, CW, or AM. Converts from 14 Mc. Takes 7 watts drive. Ameco Converter on rcve side. Professionally built by KØKQE. First \$85.

Tom Bracket, KØJFN
1820 East 3rd Street
Fremont, Nebraska 68025

THE PRESIDENT'S COLUMN

Honest confession is good for the soul, we're told, and an honest examination of our amateur radio stations ought to help it. Let us grow introspective; let's examine our stations as keenly as we can and talk plainly about it; let's not look too closely at either of our few super stations or at our few terribly poor ones, but at the average of amateur stations. It is my opinion that amateur stations today have grown up in such a liberality of store-bought equipment that the average amateur is just not interested in building any major item of electronic equipment for his station, and again I seriously doubt that as many as one-half of one percent of our amateurs of today find the time and have the patience to design and construct their entire station. I do not mean to say that present day amateurs are incapable of accomplishing these feats. Yet, the facts are quite simple. Store-bought equipment is a surprisingly healthy economy, is so readily available that it offers the path of least resistance.

Every active amateur knows that there are a lot of rotten operating conditions on our bands. Whenever we get together we talk about them, cast about for remedies. Yet, one of my biggest hang-ups is the amateur who calls CQ many, many times before identifying himself. In all probability, he feels that a long CQ will attract attention eventually. Yet, he probably would like to have a station so good that all he had to do was call CQ a couple of times and sign, and several amateurs will hear him and reply!!!! In fact, any amateur has this kind of

equipment unless his rig is putting out a jittering gurgle, when no amount of CQ-ing will induce a hard-bitten brother to answer him. But in these days of modern equipment, any decent transmitter will put out a signal the minute the key is pressed. Everyone on the frequency will hear his CQ. If he CQ's too long, many will become disgusted and will tune away from him...and, believe me, the simple but often disregarded 'three times three' recommendation in CQ-ing actually produces maximum replies as many of us can attest from experience.

Some of us always seem to buck every change. Of course, we come by it honestly, however, for some of our forefathers bucked good and plenty over the steam engine, the railroad, even the airplane. Probably, many of us can recall the bucking that accompanied the introduction to single sideband!!!! Unfortunately, for the buckler, he cannot prevent changing conditions and restrictions attained upon progress. Of what avail is it to buck anyway? Just about as much as it was for the Red Indian to buck the white man when he came or for those rebellious souls to buck SSB. So don't be misled by the hooey from some well-intentioned but misguided people that bucking is fashionable and the latest state of the art!!!! The buckler cannot stop progress.

de Sparc-Gap - Florida

He demanded that the jeweler give his money back on the watch he had just purchased. "It loses six minutes every hour."

The jeweler refused. "It is performing exactly as advertised, 10% off."

***** Leisure

FOR SALE

RCA Carfone 150 (mobile 2M FM), complete with power leads, control cable, head, etc. Hy-Gain 5/8 ant. mod. 264. Crystals: 146.34 & 146.94 TX; 146.94 RX.

Motorola Twin V (base 2M FM), complete with power supply, etc. 146.34 & 146.94 TX; 146.94 RX.

Duane D. Clausen, WBØDSC
Box 512
Valley, Nebraska 68064
Phone: 359-2360

YARD BY YARD LIFE IS HARD: INCH BY INCH IT'S A CINCH

Recently I saw this couplet on a cross-stitch sampler in a department store. Like many other folk sayings, it's true. Living each day as it comes, without fretting over what happened yesterday or what may happen tomorrow, is the sure way to serenity. If we can manage to do this, trusting in God's promise to take care of us, life will be a "cinch!" Let's see if we can't carry this thought with us at all times.

Heard several friends of mine bragging-up the 40 meter ssb phone contacts. Seems as this is the "friendly" band, and more personal contacts are made, whereby quite a number of QSO's on the higher frequencies lack this personal touch. Their comments dealt with the fact that a group of FB engineers and professional men can be contacted at

different times throughout the day. I dare say that each ham has this same feeling whichever band he is working. To each his own.....

I am informed that my time allotment has expired for this issue, so--

73's es CUL.....Ghost Writer.
de GCARC, New Jersey

A tourist in the mountains of Tennessee was talking with an old mountaineer who complained considerably about hard times.

"Why man," said the tourist, "you ought to be able to make money shipping green corn to the northern market."

"Yes, I oter," was the sullen reply.

"You have the land, I suppose, and can get the seed."

"Yes, I guess so."

"Then why don't you do this?"

"No use, stranger," sadly replied the cracker, "the old woman is too lazy to do the plowin' and plantin'."

Masonic Temple Topics

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14 channel tape recorder, Ø to 60 KHZ. 1 inch tape, 6 speed, remote control box, 6-foot rack.

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5124 Jackson
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(A) Limited to JR TriBander, unless guyed, on 56' towers.

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Heavy steel "beaded" channel design for exceptional strength—much stronger than tubular of same weight. "X" bracing & bridge type construction for exceptional torsional stability. Positive riveted construction & heavy galvanizing makes it exceptionally durable for minimum maintenance. Tapering design provides "nesting" shipment at lower cost to you, as well as lighter sections as you go higher, making it easier to erect.

THREE BASES: Rigid concrete (recommended base is 3x3x3' in firm soil, 32/40' models, and 4' deep on 48/56' models. Hinged concrete base provides option of lay-over, providing you have suitable "gin-pole" and tackle facilities. And the **EARTH ANCHOR** base requires no concrete and holds well in firm (clay, etc.) soil and may be relocated later.

A custom drilled rotor plate is provided that accepts all CDE rotors (AR22R, TR44, HAM-M) and also the HY-GAIN 400 with slight enlargement of bolt holes. A friction thrust (lateral) bearing is included.

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TOWERS WITH RIGID CONCRETE BASE

69C091	32'	133 lbs.	\$ 79.95
69C092	40'	175 lbs.	104.95
69C093	48'	243 lbs.	144.95
69C137	56'	308 lbs.	189.95

TOWERS WITH HINGED CONCRETE BASE

69C055	32'	147 lbs.	\$ 89.95
69C056	40'	189 lbs.	114.95
69C057	48'	248 lbs.	154.95
69C138	56'	313 lbs.	199.95

TOWERS WITH EARTH ANCHOR BASE

69C094	32'	191 lbs.	\$119.95
69C095	40'	233 lbs.	144.95
69C096	48'	390 lbs.	239.95
69C139	56'	455 lbs.	284.95

69C100, "T" wrench to drive anchors (8 lbs.) 9.95

Includes anchor base and anchors (anchor bases require no concrete). Earth anchors screw into the ground and hold well in firm soil. May be removed and relocated later.

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