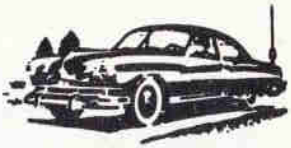
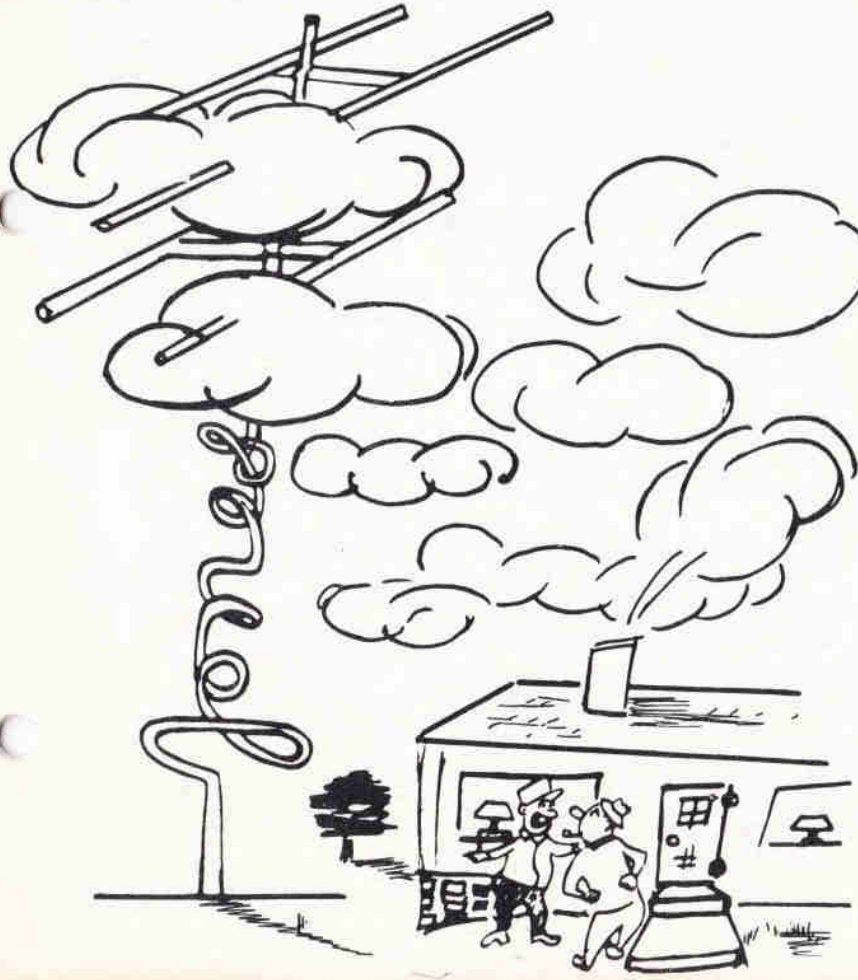


HAM HUM

AK-SAR-BEN
RADIO CLUB
INC.

WØEQU

July 1956 P.O. Box 626 Omaha 1, Nebr. Vol. VI No. 7



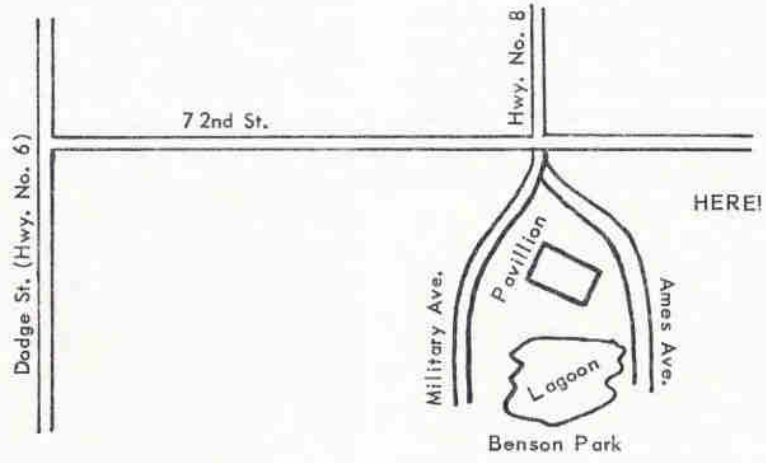
IT WILL BE A PICNIC!

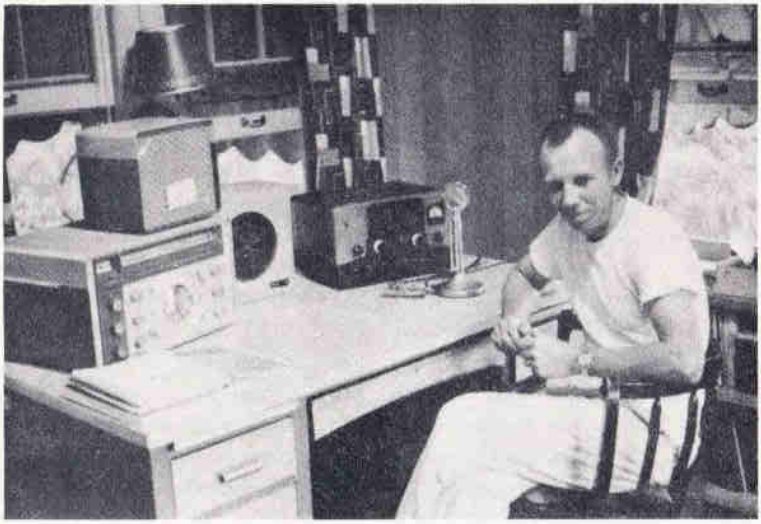
Yep, in place of our regular Friday night meeting, there will be a Hamfest for all members, non-members, XYL's, YL's and the young ones, local and out state, just as long as you are interested in Ham radio!

The date....Sunday, July 15th,.... place Benson Park pavillion.... time 2 PM. This will be a pot-luck affair with each family asked to bring a main dish sufficient for 8 persons. It is planned to put all the food together in cafeteria style and everybody pitches in. Bring dishes and hardware along and we will have the coffee pot cooking and the pop to quench your thirst.

The committee is in the process of arranging activities for the XYL's and the harmonics so be sure to bring them along. Here is a chance to get out on a picnic and still meet up with the fellows that you have met on the air.

We will have a rig on 29,640 to talk the mobiles in to the picnic spot so if you have any difficulty locating the spot, just give out with a lusty "CQ Ak-Sar-Ben" and see what happens. If you don't work mobile, the attached map (?) should help you to navigate to the picnic site. We're certainly looking for a crowd and certainly many of the hams from the surrounding area so get out the family bus, get the family ready, pack up the grub and we will see you at Benson Park Pavillion on Sunday, July 15th for a good old fashioned get-to-gether.





KØAMM Curt Hicks

It's a bit unusual to be able to cover 2 stations at one time while describing the station of the month, but that is our privilege for this issue.

Unknown to the chief(?)operator we succeeded in catching Curt Hicks, KØAMM, in a restful mood just long enough to take the attached picture. We're still trying to persuade Dotty, KØBRZ, to let us get her picture too, but you know how it is with these wives...they're so bashful!

Curt timed his entry into ham radio so as to get one of the first KØ calls, and has really made use of it since its arrival.

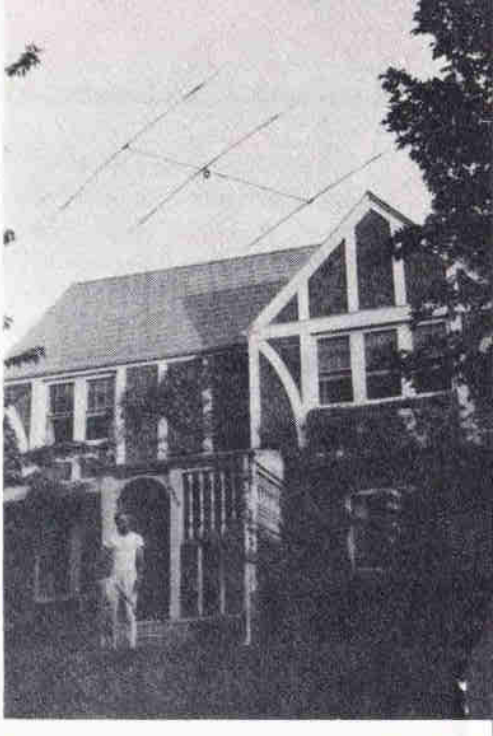
The station consists of a brand spanking new NC300, Viking Ranger, a WRL VFO, and a WRL 3 band beam.

Dotty, is an active XYL op, and her voice is known on all bands except 160 meters. Not to be outdone by the OM,BRZ graduated from the novice ranks last October, and has kept the filaments hot ever since. While it has never been disclosed, it appears that there must be a time schedule at the Hicks hacienda. You can hear Dotty on the air starting at 15 minutes after dishwashing time and intermittantly up until quarter of dinner time. After that you can hear Curt on the air, active in the 10 meter CD net as assistant NCS, running checks on the air for one of the local gang, or in the middle of a rag chew until

the wee hours.

If you look closely at the picture you may be able to see the 10 meter mobile rig that Curt has under construction. He already has the receiver in the car so you can expect KØAMM-BRZ to be mobile in a short while. If your strictly CW you can expect to hear the Hicks at that end of the band too.

At the present Dotty and Curt have a mighty fine shack and a swell working arrangement but we wonder just how they will handle the situation when son Paul receives his novice ticket which is expected momentarily. Well... maybe that is the reason that Curt bought the 3 band beam!



QTH of KØAMM and KØBRZ
5315 Blondo - Omaha

FROM PHOENIX

Frank Shopen says that Ham Hum continues to be a welcome window to look through so as to keep in touch with the ARC gang.

Frank, WØWQE/7, is now living in Phoenix, Arizona. He has put his rig on the air from the new QTH but has not been able to contact any of the Omaha crowd. Keep an ear open for Frank as he plans to be on the air every possible evening from 10:30 to 11:00 PM, CST, on 75 meter SSB in the vicinity of 3995 KC.

The Shopen are enjoying the scenery, mountains, warm climate (104 degrees) and the dry air of the Phoenix area; not to mention the new and interesting two-way communications job with Motorola (MCC).

OUR THANKS

Thanks, gang, for the postage contributions for Ham Hum. We do appreciate it and it does help a lot. It helps the Editors budget to go a bit further.

FIELD DAY A REAL SUCCESS!

Everybody cooperated..even the weatherman, that's for sure, Mr. Erickson and his ideal Field Day location, and particularly the whole Field Day Gang! Our hat is off to Ed Gutman and his committee for a well planned and headache free week end that according to all reports was one of the best the Club has experienced in a long long time.

The following letter was received from Ed, CQX, which denotes his feelings toward the whole operation:

Editor Ham Hum,

I wish to take this opportunity to openly express my appreciation to all our Club members who so unselfishly donated their time and efforts on Friday night, Saturday, and Sunday, June 22, 23, and 24th to set up our antenna poles, antennas, tents, and etc., operate the gear, and then take down the installation, and get the field back in shape after the contest.

A special acknowledgement to the individual tent chairmen, Larry Caccamo, NMN, on 10-15- and 40 meter phone; to Harlan Bercovici, BHT, on 20 meter phone, and to Tony Helbling, QMW, on 40 CW, for their part in lining up the equipment, antennas and the operating procedure to be followed.

To Fay Powell, ISV, for making available his truck at all times to haul the equipment to and from the location during the 3 day period. And an extra tip of the top hat to Fay for the excellent outdoor movies on Saturday night.

To Dick Eilers, YZV, our President for seeing that everything ran smoothly and taking care of those last minute items that always seem to be forgotten.

To Earle Olsen, JKE, for the tremenduous job of deciphering, copying and computing the score he will mail to ARRL. At this time the total score is not yet known, but we will give you the official scoring as we see it in the next issue of Ham Hum.

A special thanks to Lou Cutler, VLI, for securing the wonderful Field Day location for us on a no pay basis.

We are sure that all the members that came out to the site had a good time, but it goes without saying that the success or failure of a Field Day operation is entirely dependent upon the full cooperation and help of as many fellows as possible who can find time to come out and work before, during, and after the

contest.

Yours for a bigger and better Field Day operation in '57.

Ed Gutman, WØCQX

DX DRAGNET..A TRUE STORY

Dump de dump dump, etc.

My name is Art. My call is WØ-QMD. I have no assistant that I call Friday. The case that you are about to read is taken from the log of my station..date, Monday, June 11th, time, 2232, Central Standard Time. The names and stations of the characters have all been changed to save the embarrassment to their next of kin.

This event took place on a balmy summers evening, but it has been repeated many times before and very likely the same situation will continue until the general class license is issued to only those who have had 5 years experience as a novice and their home brew single side band rig is OKed by the RI. Yes, it was a pleasant evening...just right for DX hunting, for the XYL and the parasitics were all out for the night, the cooler was full of buttermilk, and the 10 meter band was jumping with signals riding high on the new sunspot activity. As I twirled the dial over the band I heard a YK in Syria ask a W6 to go back to the walkie-talkie for the Viking 1 was blocking his receiver. So-o-o, with a flip of the right hand the filaments of the trusty old rig burst forth in brilliance. It appeared that the green eyed jewel on the lower panel must have sensed the tension that was mine, for it had a twinkle such as had never before appeared.

Everything in the shack was right that night. The oscillator dipped like a fisherman going after his first 25 lb northern, the buffer 6146 winked its filament just as though it new that we were out after the rare ones. Even the antenna gave out like never before! Thus, with everything in readiness, a healthy swallow of starch free refreshment, I settled back to add to my lingering list of new countries.

"CQ DX, CQ DX, CQ WØ, this is SU1AS calling and tuning from 14.2 up the band...come in someone, please." Imagine my gratification! I didn't even have to put on the cans for that one! A quick look at the VFO told me that I was still on 14,220... right on his frequency...exactly in the same place at which the rig had been peaked on the dummy load. Squeezing the D104 as though it was my first date, out went that call...."SU1AS, SU1AS, SU1AS, this is WØQMD, calling"....just like the hand-

book says....interpose your call regularly and at frequent intervals. "SU1AS, SU1AS, SU1AS, This is WØQMD, etc." Sure, it was a disappointment to hear the SU come back to W1EEE, but the way the band was perking tonight I didn't mind standing in line for this dandy! Lean back in the chair, Baldy, take it easy old man, for all that is good comes to he who waits. But it wasn't long before Ahmed was back at it again...."SU1AS calling CQ WØ." That's my boy! SU1AS, the handle is Ahmed, and the QTH is Cairo, Egypt! Man how simple it was to read his mail during the short QSO with W1EEE.

There I was as he made his last call, peaking the exciter stages to be sure of that last bit of drive but it wasn't necessary for each of those firey eyed bottles were giving their all like the "O" Street gang pouring it on a Nebraska coach.

With a gentle press on the push to talk switch, a swift glance at the final plate meter, and in my best Toastmasters voice I gave forth with a lusty call, "SU1AS, SU1AS, SU1AS, in Cairo Egypt, This is WØQMD, Omaha, Nebraska calling." After 3 calls and 3 signs and the anticipation of an expectant mother with her suit case in hand, up went the gain on the Hro. Gottem! WØQMD, Omaha, Nebraska, this is SU1AS, Cairo, Egypt, returning". "Your signal is...". Break, break, break, break....how do you copy Art"....this WØ123 calling." "How is my modulation tonite, Art." Just fired up and heard you sign, this is WØ123, break "....." WØQMD, this is SU1AS, over."

"Standby please, WØ123".... "SU1AS, this is WØQMD returning": Sorry, Ahmed, but we had a breaking station and I did not copy very much of your transmission. We will appreciate your repeating the signal report. We're copying you Q5, S9 when your in the clear....we do want to complete the QSO for you as a new country for this station so please give us another call".

Maybe it was the heat of the shack that started those beads of perspiration to pop out on the top of my bald head as again the voice of the Egyptian...good old Ahmed...came back in the clear, "WØQMD this is SU1AS". The S meter again swung to an S9 as the man behind the Spinx and the pyramids poured forth with "Very fine old chap....I am indeed sorry that you had interference on my channel....your signal report is....."WØQMD, WØQMD again and again and again..... WØQMD this is WØ123.....don't know what's wrong over here, but the rig went off the air....

thought you might of called me. What are you hearing tonight? Haven't been listening on the band at all....been messing around with this new surplus rig but don't know if it's perking...whadaya say Art....WØQMD this is WØ123....."I stood by for you old man but perhaps you are not now hearing me, so 73 and better luck next time..... WØQMD this is SU1AS now signing clear and QRT...Cherrio! "Hell....o, hell....o, hell....o, hello test, this is WØ123 testing" hell....o, hell....o.....

With a loud crash another buttermilk container hit the round file, and as the filament switch felt the slap of my hand the plate transformer let go with a vibration that sounded just like "Oh H....".

This case was heard before the open air court but unfortuneatly the criminal is still apprehended. He has not yet been taught the courtesies of the air but some day he will pay the price.

This has been a true story. Only the date, time, and calls have been changed. My name is Art. I wish I had a man Friday to clobber that so and so.

Dump de dump dump!

IT'S THE MOST!
by John Orr, WØPHW

What is the most important thing to every amateur radio operator?

Is it whether you are licensed or not? That is important to you, and your family and your friends, your city and country, but is that really important?

Actually, your safety is the most important thing to you! Try tuning up the rig with one hand, or climbing the telephone pole in the back yard with one leg. Or, just spend one hour with one or both eyes closed.

Thousands upon thousands of people are maimed, injured or killed each year in what we call accidents, hams included. Every one of these accidents could have been prevented. Our personal safety, and the safety of those about us, should be uppermost in our minds at all times.

In industry where safety programs are in effect, the rate of accidents is drastically reduced. One of the safest, if not the safest industry in the world, is the telephone company.

The telephone company has had for many years a very active and effective safety program. One portion of their program is to provide eye protection to all tool using employees and their

supervisors. Eye protection is furnished and the wearing of the eye protection off the job is encouraged. The following is a reprint of a safety bulletin, published by the Northwestern Bell, which is worth reading. It exemplifies so clearly the possibilities of injury that face us each day that we considered it wise to reproduce it.

Too often we give too little consideration to our own safety. If you don't mind walking around in the dark, pulling a cigarette out of your picket with only one available hand, or having to push the door open with a new style crutch, then don't pay a bit of attention to this item. But whether or not you care about your own safety, think about the XYL, YM's, YL's and the harmonics that depend on you. Safety practices are a good investment....make them pay off for you in continued well being.

PLANT SAFETY BULLETIN NO. 14

THIS IS MY STORY

Being an ardent Amateur Radio Operator, the acquisition of another automobile required the reinstallation of the two-way radio equipment that had been in the former automobile.

The job required several holes to be drilled in the bottom of the dashboard to hold the mounting rack for the transmitter, the receiver having been mounted the day before.

In preparing for the job I had assembled all of the tools that were required at the automobile and had returned to the house for the transmitter rack. As I was leaving the house with the rack I became aware of the problem of drill chips falling in my

face as the holes were drilled. Since I was wearing a pair of rimless glasses at the time, the thought came to mind that my safety glasses might afford more protection because of the larger size lenses, so I returned to the house to put them on.

Upon returning to the automobile, I had proceeded to drill the first of four holes under the dash. The first three holes were drilled without incident, but upon drilling the fourth the electric drill gave a sudden twist and the drill bit broke. I felt something hit my glasses but there was no indication that anything was out of the ordinary until a few minutes later the wife came out to the automobile and asked what had happened to my glasses. Upon inspecting them I found the left lens shattered.

My first feeling was one of relief, and as that passed the thought came to me, of trying to get to the doctor's office with a drill imbedded in my eye. The very thought was sickening to say the least.

The combination of safety glasses and an awareness of safety practices had saved me an eye and the company which paid for the glasses several weeks of sick leave pay for an employee hurt at home through an oversight of the safety practices that we spend so much time observing and learning on the job.

No matter how safe the job seems to me now, I intend to keep ever watchful for possibilities of getting hurt around home or on the job doing innocent looking tasks.

Oren Hugh Lano
Transmission Man

CLUB ITEMS

We are very pleased to receive from the out of town Clubs items of interest that we would like to include in Ham Hum. Unfortunately quite a bit of the material reaches us after the current issue has gone to press. To hold it over until the next issue would be like reading last weeks news stories so we have had to omit several dated articles.

We will be happy to include material received at least 2 weeks prior to the second Friday of each month so mark it on your calendar, please!

TRANSISTORS

by WØNMN

Transistor is an abbreviated term for the two words "transfer" and "resistor". Unlike the vacuum tube which is a voltage gain device, the transistor is a current amplifier. Basically the transistor and the germanium diode are alike except that the germanium diode is not capable of amplification. The two available types of transistors are the N-P-N and the P-N-P. These are identical with the exception of polarity and current flow. The N-P-N type allows electrons to flow in the same manner and corresponds to the vacuum tube with negative electrons as the charge carriers. The P-N-P type allows current to flow in the opposite direction and corresponds to a vacuum tube with positive electrons. (P.S. There ain't no such animal). This versitility is one of the advantages of the transistor over the vacuum tube. Another advantage of the transistor is the ruggedness and freedom from microphonics.

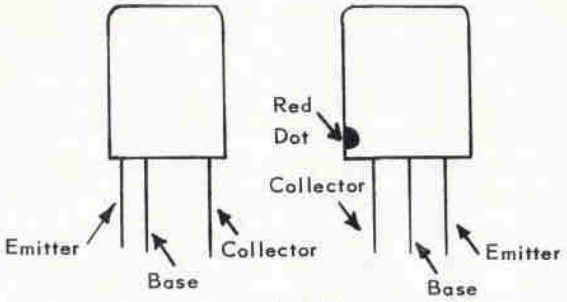
The structure of the transistor consists of three elements, the base, the emitter and the collector. The base is comparable to the grid of the electron vacuum tube, the emitter is comparable to the cathode and the collector is comparable to the plate. The emitter is always indicated by an arrow showing the direction of current flow.

Unlike the vacuum tube which is a voltage gain device, the transistor is a current amplifier. As such, in order to realize maximum current gain or amplification, circuits leading into transistor design should be of the low impedance type. In this respect it is not considered practical to substitute a transistor into a circuit formerly design for a vacuum tube. Equally, it is not practical to substitute a vacuum tube into a transistor circuit.

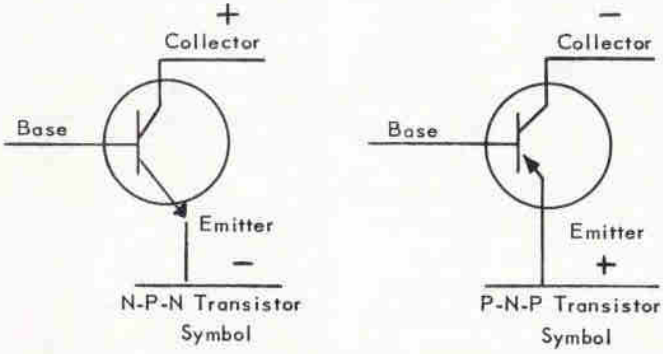
In spite of the ruggedness of the transistor, this little device can be damaged easily by excessive heat, therefore, care should be exercised when soldering the leads.

Due to the versitility of the transistor, too much space will not be used up in this issue of Ham Hum describing its uses and applications. Many books have been published on the subject, and more can be obtained through these than could possibly be explained here. However, a few circuits and drawings are published for your reference and guidance. These circuits and diagrams are included for illustration of typical applications and are not intended as con-

structional information. Ham Hum assumes no responsibility as to the physical or electrical characteristics of the finished product.



Transistor lead placement



CAUTION: DO NOT CHECK TRANSISTORS WITH AN OHM METER.

BILL,

Bill, BUR out at Mead took on a project of building 6 meter rigs for the rest of the local group, but was forced to give that one up when the 6 meter DX started to roll in for the summer! Bill has worked KH6IJ on 160, 80, 40, 20, 15, 11, and 10 during a DX test and was able to work VP9CR on all bands except 160! Good going Bill.

"WE" EDITORS

Editors of Ham papers always like to refer to themselves as "we" so that the fellow that doesn't like what he reads will think there are too many for him to lick!

DO YOU AGREE?

One of the fellows sent in the following suggestion....do you agree with his contentions?

"It seems a shame that so many novices have to discontinue after one year. I know of several prominent people who would retain their license but do not have time or desire for study of higher license, as is. Deaf men and blind men get great satisfaction out of talking by radio. Why could not a novice...ticket... be renewed by increasing the code speed to 10 WPM the second year, and 13 WPM for the third year? The general license is all right for those who desire it and phone. I have not tried for the general as deafness prevents that...but I could do it, but would have to have special code pitch and power".

Anyone have any suggestions?

CD NEWS . . . HEAR

It is gratifying to hear ten to fifteen net members check in each Monday evening on 29,500 when the CD net gets under way.

To date, the net has not missed a single schedule, thanks to AMM and IGL who have kept things going when QMD has been out of town or didn't know how to get his rig on the air.

The group is getting a variety of experiences in net operation and according to reports it is a new venture for several of the group. Thanks to KCK, and WXG who have given freely of their MARS and military experience in traffic handling to keep the NCS on the beaten path.

"Operation Alert 1956" will take place on July 20, starting at 0800 and will continue until 2100 on Sunday July 22. A goodly number of the net members have indicated their intentions to participate and will be notified of the operating schedule in the very near future.

Equipment has been purchased for two CD Amateur stations and will be installed within a few weeks. The one station, to be installed in the CD Emergency Communications van willlconsist of a Viking CD 2, an HQ140 X, whip antenna with whip load 6 for all band operation, plus mike, key, wire antennas for installation at portable locations and the other necessary gear for emergency operation. The second station will be a duplicate of the mobile set-up with the exception of the antenna system. This one will be placed at the City Hall for fixed portable use, but will be

so arranged for fast removal in the event of any contingency.

We are expecting the return of our approved RACES plan, which will give us official status, in next couple of weeks.

With the ten meter net now well under way we need participants on 6 and 2 to bring about a rounded out CD operating plan in this area. Those of you fellows operating on 6 and 2 that wish to participate in RACES and CD activities should let your desire to cooperate be known and we assure you that we will arrange a spot for you.

All that is required to participate in this activity is to check in any Monday night, indicate that you wish your name placed on roll call and the necessary arrangements will be made. It will be necessary that you check in weekly for those that miss 3 weeks in a row will be dropped from the rolls.

The community may need our help, so why not be prepared.

TECHNICIAN

Technician: "A single oscillator will generate thousands of harmonics"
Novice: "Gee! How many would a married one have?"

INFORMATION NEEDED

Here is an aggressive Ham that has been trying hard for further accomplishments in the fine art of operating but no one seems to cooperate with him. Can someone give him a few pointers?

WØFMW (frequency modulated windbag) out at Ainsworth reports that he has not been on the air very much during the past 2 years and has almost forgotten the operating procedure. He already has about 10 different ARRL certificates but no A1 operator plaque. FMW says he calls CQ about 25 times signs his call once and gets nothing. Calls CQ once, signs and gets WØTIP (discouraging). Has even gotten on the net frequency and called CQ at net time and all he got was TIP. He would operate off frequency but hasn't heard any A1 ops there either. Gets in BC sets OK and has been expecting a Z9 certificate but that has been slow coming too. FMW has only one more method by which he thinks he can get the A1 paper and that is by giving 5 by 9 or 5-9-9 reports on weak chirpy sigs. Anybody have a suggestion on how to get an A1 operators certificate...or are they still available?

RADIO TELETYPE ALA AMATEUR

by John Orr, WØPHW

Experimentation seems to be one of the most interesting aspects of amateur radio. Most all fields of amateur communication are fairly cut and dried--using commercial equipment. One field which is still wide open and extremely interesting is radio teletype.

Basically it is very simple. But like any other mode of communication it may also become very involved. Those who strive for perfection would say it is complicated yet it is as simple as CW.

A teletype machine is really a telegraph printing device. It can be used on any telegraph circuit. Therefore we see that the machine must transmitt dots and dashes, and it does. We could make the machine take over the job of keying your transmitter and all we need do is operate the keyboard which is very similar to the one on your mil in the shack.

The machine responds to pulses of direct current and all we must do to allow the machine to copy signals from the air is receive them on our receiver and convert the dots and dashes to pulses of DC.

A teletype machine will transmitt and receive signals at a steady rate. Most amateur radio teletype operates at 60 words per min. (that's even faster than I can copy CW). The teletype circuit is ideal for traffic handling, for errors are reduced to a minimum. Radio teletype on two meters would be a very excellent CD circuit. (this is due to the lack of QRM)

There are three ways to transmitt teletype signals that are in common useage today. One we may replace the hand key with the keyboard of a teletype and turn the carrier on and off the same as we do with the hand key. But this is not practical for radio communications. Second, we may transmitt a carrier while the key is down and then shift the frequency of the carrier-when the key is up. This is called frequency shift operation, carrier frequency shift, or FSK. The advantage being that there is a carrier being transmitted for both key up and key down conditions. Only this frequency of the carrier is changed. This gives us the advantage of FM type of operation. The FCC allows us to use a frequency shift up to 900 cycles (the signal is much narrower than an AM phone).

The third type of operation is AFSK or audio frequency shift.

Using this type of transmission we transmitt an audio tone through the modulator and shift the frequency of the audio tone or key up and key down conditions. This type of operation is used on two meters.

We hope to have a RTTY rig working for the club in the near future. This should prove very valuable for point to point operation, but, of course, we don't mean to insinuate that RTTY could not be used mobile. Those of you who are interested in a project of this nature should contact, YZV, QMD, QXR or PHW.

If you fellows are interested in getting set up on RTTY, let us know. We can arrange for a series of articles that will clear up some of the so-called mysteries of this growing mode of amateur radio communications.

BILL, CPM, REPORTS

Bill, CPM, reports that UB5WF was heard on June 9th at 11 PM working South America. This was the first UB heard so far. Bill called him but the Ukraine station was listening for South American stations only, at that time. Stick with him Bill, he can't miss that signal of yours.

CONELRAD

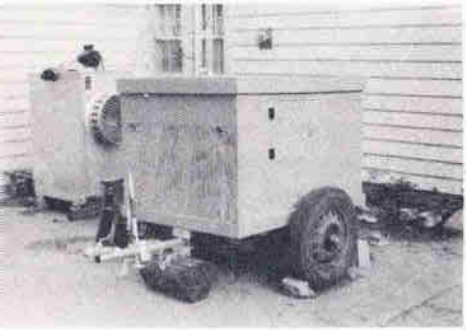
by Larry Caccomo, WØNMN

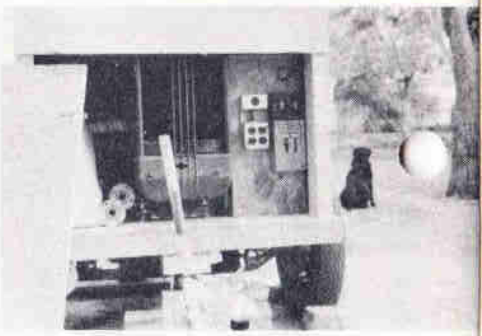
Let's all get in gear. Conelrad may soon become a necessity around the ham shack. In designing a complete unit for this purpose, the following specifications are suggested.

a. The alarm should be complete, requiring no external radio for a signal source.
b. The input circuit should cover the whole broadcast band.
c. Have at least two types of indicators, or one indicator and an automatic transmitter power shut-off.
d. The instrument should have sufficient selectivity to prevent blocking by the local amateur transmitter.
e. The unit should be adaptable for either rack or table mounting.
f. It should require little or no external antenna.
g. Parts used should mostly be available from the junk box or bargain ''flyers".

Last month Ham Hum published an AC-DC Conelrad Adapter. This month we suggest you investigate the possibilities of the versitile little transistor and put it to use. A transistorized unit would not only be small, but highly economical as well. Sensitivity of relays may be increased through the use of the

(Cont'd from Page 19)





MORE POWER TO YOU

by John Orr, WØPHW

Our club is very fortunate in owning six kilowatts of portable AC power. This acquisition took place several years ago and was a very interesting project. Our club purchased three Onan three KW gas driven generators, that were in various states of dis-mantelment.

After many hours of labor a group of club members re-built the three and put them into good working order. One of the units was sold to cover the cost of the other two units. Soon after the generators were rebuilt we purchased a trailer on which to mount our two remaining units.

With a few years experience behind us we decided to rebuild the trailer. The thought was to make the trailer mounted generators more accessible and the whole shebang better looking. This last project is now almost completed. At the present time the trend of thought is to place one generator on our trailer and as soon as possible acquire another trailer for the other generator.

Recently a nice gang turned out to rebuild the trailer and as it stands, as the pictures show, the housing is a square box with openings at each end. A door has been cut into the left side for access to the starting controls. Pannels are removable from each end, the front end pannel allows access to the control pannel and exposes the radiator for cooling purpose. The rear end pannel opens to a storage compartment.

On the control pannel is mounted the following equipment; a 30 amp circuit breaker, switches for the tail and interior lights, four standard ac outlets, a polarized twist lock ac outlet and the oil pressure guage. The gas

tank filler is now located at the rear left corner of the trailer bed. Provision is made for adding a gasoline guage at a ater date, but just in case you try to fill that tank, it holds 16 gallons.

The trailer housing is built like a shoe box, that is, the lid is removable. This will allow easy access to the interior and ease of filling the radiator. The entire housing is also removable leaving a flat bed on which the generator is mounted.

From time to time we would like to make certain additions to the trailer to improve its alue and convenience. All suggestions and ideas are welcomed and will be considered with an open mind. We could use two automobile bumper jacks for stabilizing the trailer when parked. We could use a sign on the side. We need a ground rod and grounding cable. Any one with any of the above equipment please give us a jingle--all contributions gladly accepted.

We have one of the nicest units in these parts, and as club members we can be very proud of it. Soon we hope to have two such units, so let's keep up the good work and keep the gear in good shape and they will last us for ever.

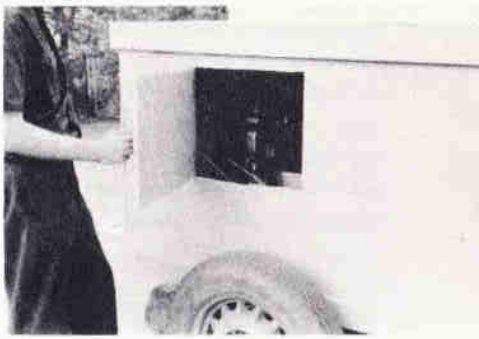


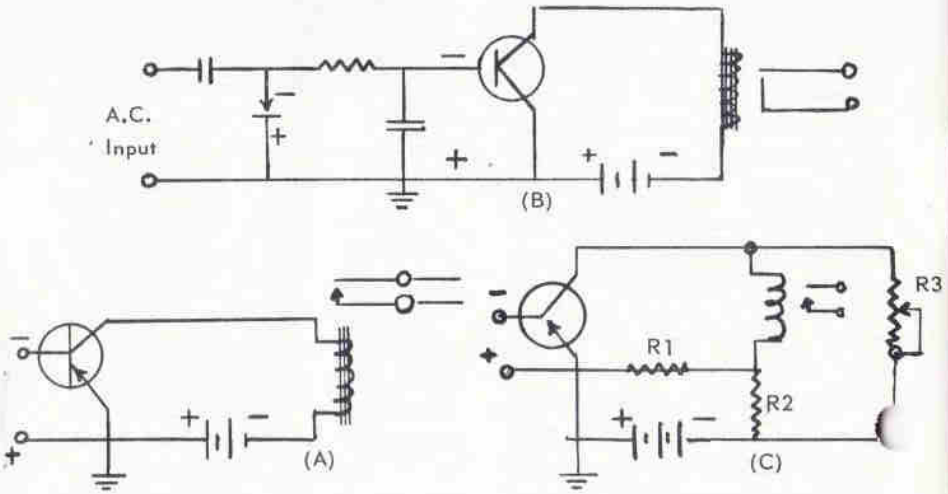
Photo to side door of starting controls.

CONELRAD

(Cont'd from Page 17)

transistor-type amplifiers. Such units may be constructed quite small, small enough to mount directly on the base of the relays. Where considerable vibration and shock is incurred, the transistor amplifier is preferred over the vacuum tube because of the ruggedness of the transistor and freedom from microphonics. There are numerous arrangements that can be adapted. Each installation presents its own problems, however, basically the DC amplifier consists of the junction type transistor and battery. The two types of transistors, the P-N-P and the N-P-N, with exception of battery polarity and direction of current flow, give equal performance.

Below is a basic circuit of a transistorized relay circuit. In this circuit a low-resistance d-c relay is connected in the output circuit between the collector and emitter. The static current flow (microamperes) through the relay is negligible, insufficient to close the relay. The collector current which would normally close the relay would be considerably higher, probably between 500 microamperes to 1 milliampere. In battery operated



circuits, higher current relays would be uneconomical if the relays were to be maintained in key-down position for long periods. However, where used with powerline AC imputs, supply potential can be supplied through the use of selenium rectifiers or germanium diodes.

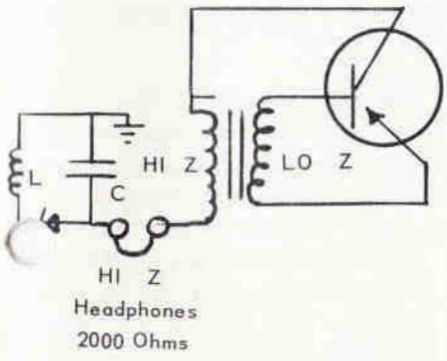
Diagram (A) is a basic circuit. The transistor functions at low d-c collector voltage. With no signal, the collector current is low (in microampere region, which is too small to close the relay). With an applied signal, this collector current rises to a degree sufficient to close the relay.

Diagram (B). In this circuit, a very small a-c signal which is rectified by the germanium diode presents a signal sufficient to cause current to flow in the collector circuit.

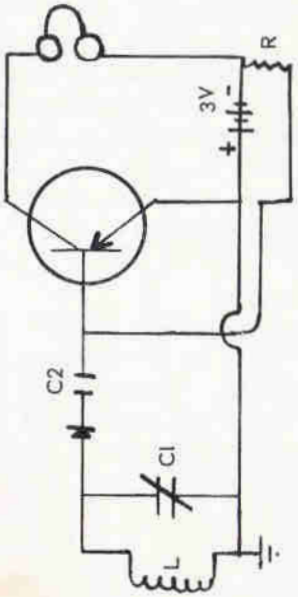
Diagram (C). This is a balanced type circuit. When it is intended to use relays that are current sensitive which would normally close at low static current flow, this circuit is especially desirous. The resistors and internal resistance of the transistor, form a balanced bridge by adjusting R3. Under this condition no current flows in the collector relay circuit. A d-c signal changes the internal collector-emitter resis-

tance and upsets the balance of the bridge circuit, causing current to flow through the relay coil.

Below is a circuit diagram of a C.W. keying monitor utilizing a transistor. It is assumed the circuit drawing is sufficiently self-explanatory and needs very little further discussion. Any junkbox transformer having a low and high impedance winding will do. Any high current xtl diode will do. L and C may or may not need be resonant to any particular frequency. C may be approximately .002 and L approximately 3 to 5 turns wound on a coil form. This circuit is highly sensitive and requires very little energy. RF energy rectified by the germanium diode causes the oscillator circuit to emit an audio signal of approximately 1000 cycles to the phone each time the transmitter is keyed.



Below is a circuit diagram of a simple transistor detector. Its simplicity needs no explanation. This circuit incorporated together with the above circuit of the Oscillator, can produce a very practical CW-phone monitor. The values of R, C1 and C2 and L will depend on frequencies to which this unit will be adapted. R will be approximately 200K ohms. C2 should provide sufficient coupling. However, .01-03 should prove normal value of capacity. L and C1 if utilized in a broadcast recepter will be determined according to applied formula data set up in your hand book.



TRI-STATE RADIO CLUB

The Tri-State Radio Club at Sioux City cooperated with the Air Police at the Sioux City Air Base on open house for Armed Forces Day. A base station was ser up at that Air Police headquarters and, using about 6 mobiles on 10 meters, helped in directing traffic and parking. The TRC was highly commended for the help given and not one failure was reported on the mobiles for the day. 12 members were on hand to participate in the work as well as several hams from the air base.

TRC now are monitoring 6 meters on 50.7 Mc via WØFBY. Fern is the op and also has his receiver set for monitoring 75 phone on 3900 Kc.

Here is Club action and for which the TRC is to be complimented. ARC members please take note.

TOM K8BKF

Tom, ex-AQJ, with his new call K8BKF is now operating 10 meter mobile "phone" but not on 28,250 as reported in the May issue of Ham Hum! Stick with us Tom and we will have you out of the band if your not careful! If any of the crowd want info' on BKF, talk to IGL, his XYL or YZK for they chinned with Tom a couple of weeks ago.

NNRC PICNIC

The Northeast Nebraska Radio Club is scheduled to hold their 1956 Ham picnic at the Stanton Nebraska Fair Grounds on July 8th. Sorry we did not receive the info in time for the June issue, but with the NE group in motion, we know that the Hamfest must have been a dandy!

ALL THE WAY

After being limited in operations at the old QTH, KØBSV is now going "all the way" for he has moved to larger quarters at 2030 No. 68th Street. Paul is putting up a 2 element 10 and a 2 element 15 rotated by a new CD heavy duty rotator, all of which will be atop a 45 foot telephone pole. The new 97 x 135 lot will hold quite an antenna farm, so keep an open ear for BSV. Paul says that all ARC members are welcome cut call WA 9014 for appointments!

HOMESTEADERS OFFICERS

The new officers of the Homesteaders Amateur Radio Club at Beatrice are as follows: Lee, AQQ, President; Bob, QNF, Veep, and Louis, KØCBV, Sectretary. Good Luck fellows for the coming year and be sure to keep Ham Hum in tune with the developments in the Beatrice area.

BOTTLES FOR BABY

Windy, NPA and XYL, Beth just bought several new bottles but this time they were not for the ham rig! These bottles will be placed in use by their new daughter, Pamela, who arrived on May 23rd. Windy and Beth are now in Poughkeepsie, N.Y. where Windy is attending the IBM school. On his way east, Windy was talked into Cleveland, Ohio, via 10 meter phone by K8BKF (ex-WØAQJ) and several other mobiles! Windy and Beth send along their 73 to the ARC crowd and are already looking forward to the return trip.

NEW OFFICERS

The Grand Island Amateur Radio Society have elected new officers for the year with the following group to lead the activities for the next twelve months; LEP, Carl Maggiore, President; CC, Gus Lynch, Secretary-Treasurer. We understand that already there is a question as to the capabilities of the new Secretary, for Gus is the only guy in the Club that can't write! It appears that all correspondence this year for the GIARS will be carried on in CW. Good Luck, gang, you should have a bang up year.

PICK 'EM UP!

We are holding QSL cards for the following: BZZ, KNØEYK, and KNØBOO. Pick them up at the next meeting...we'll have them there for you.

20 STATES

With the increased activity on 6 meters we have been asked to list the accomplishments by states worked and confirmed. The first report indicates the following: Station, WØYZV; States Worked....20; Confirmed.... 13.

We know there are many more so get them in to us!

CQ OMAHA AWARD

Al McMillan, JJK, has been chosen the winner of the "CQ Omaha" award on the basis of the QSL's he submitted as evidence of his participation. The number of entries was a bit disappointing, but we are certain that we did help to reactivate the local rag-chews plus tempting some of the crowd to get on the less crowded higher frequency bands.

Congratulations, Al...your award is forth-coming!

SORRY

We have had several requests for copies of the March issue of Ham Hum which carried the story of the canned Flood Exercise. Sorry, men, but we just don't have a surplus over and above our file copies.