



HAM HUM

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March 1967

CENTENNIAL RE-ENACTMENT
WED., FEBRUARY 22, 1967 -- PILOT H.N. "DUSTY" RHODES



FIRST NIGHT AIR MAIL FLIGHT
★★ FEBRUARY 22, 1921 -- PILOT JACK KNIGHT ★★



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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NEXT MEETING - FRIDAY, MARCH 10

NOTE CHANGE OF PLACE

Friday, March 10, 1967 is the date of the next meeting of the Ak-Sar-Ben Radio Club, Inc. The meeting will be held at 8:00 P.M. at the Technical Institute in Room 260, Engineering Building, University of Omaha. Use the 63rd and Dodge Street or the Elmwood Park entrance and park in the FREE parking area southwest of the Engineering Building.

Jim Droege, WØYCP, will give a short talk on the 2 meter Repeater.

Dan Fahrlander, WØLGT, will explain the activities of the Technical Institute, Ham Radio involvement, and will tell us about their student amateur radio club, WAØQHE.

We still have a few of the new ARRL message forms on hand for traffic handlers who need them.

2/11/67

Editor:

Tnx for my first issue of Ham Hum in about 8 yrs. I worked Ferris, YZK, the other day and heard Frank (Ex-10S). Also talked to Bill Schroeder. His new call WA6VSF (Ex-ØIGC). Also worked Bob Rudd, W9JWY (Ex-ØEUT) now in Aurora. Nice to see John Orr's pic in this issue, but he's like the rest of us - not getting any younger!

I would appreciate having a copy of ur Jan. issue if you have any left. Again, tnx a million.

Tom Fifer, K8BKF (Ex-WØAQJ)

OFFICIAL BULLETIN NR 98
FROM ARRL HEADQUARTERS
NEWINGTON CONN FEB 2 1967
TO ALL RADIO AMATEURS BT

Attention VHFers. Another moonbounce success has been reported. On January 27, from 0600 to 0700 GMT, W6DNG worked F8DO on 144 Mc. Although no new record, the average beam setups used of particular interest. W6DNG used a 32 element colinear while F8DO used 8 yagis. Further details will appear in March QST AR

FEBRUARY MEETING

Our thanks to Damon Nuckols, WQUIO, and Harry Snyder, WQNVF, for their talks at our February 10 meeting.

Damon gave a short talk on the half-wave dipole. He discussed the theories of impedance, resonance, radiation resistance, angle of radiation and etc. of a basic half-wave dipole in free space as opposed to the practical applications of these theories in a normal antenna system. Damon raised some interesting questions, and we are looking forward to the next time he can continue the discussion.

Harry, a retired Navy Chief from Fremont, Nebraska, gave a very interesting talk, showed some slides and passed out literature on the world's most powerful radio transmitter. Harry brought out the following interesting facts of the 2 megawatt transmitter located near Cutler, Maine.

It is located in Maine to provide reliable communications in the northern latitudes. Also, a cool climate is required because the heat generated by the tubes and transformers becomes a problem to dissipate in warmer climates. Its primary function is to provide a reliable signal to surface ships and Polaris missile submarines around the world. It is operated at VLF frequencies...as low as 17,000 Hz and uses 50 Hz FSK. More than 75 miles of one-inch phosphorous bronze wire is supported by 26 gigantic towers ranging in height from 800 to 980 feet. These structures are designed to withstand

very strong winds and heavy ice accumulation. It can feed into either of two antenna systems. It employs 115 enlisted men, 8 officers and 100 civilian employees. It is under surveillance by an off-shore Russian "fishing fleet." It is located on a peninsula so the radials can be extended into the ocean to provide a good ground. There are over 2,200 miles of radials in the grounding system and as many as 6 radials to a degree in some locations.

The size and scope of this engineering marvel is fantastic. We wish to thank Harry again for sharing with us some of his knowledge.

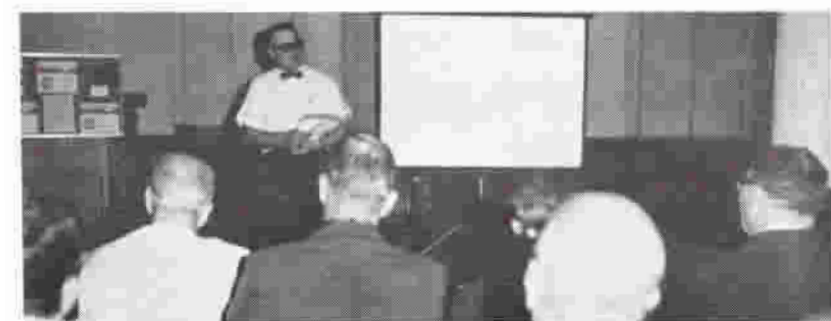
John Orr, WQPHW, was the third man to shake hands with "Mr. Ak-Sar-Ben," thereby winning a prize. "Mr. Ak-Sar-Ben" this time was Harold McClenahan, WAQDGA.

The door prize was won by Royce Johnson, WAQKIL, which was conducted by the same and the winning ticket was drawn by none other than his son! Let's "keep it legal," K I L !!!





Harry Snyder, WØNVE, talks on world's most powerful transmitter.



Damon Nuckols, WØUIO, discusses the basic principle of a half-wave dipole.



Royce, WAØKIL, and Virginia, WAØNCO, proudly show their Nebraska Centennial Certificates.



John Orr, WØPHW, (right) is the lucky winner of a prize by being the third man to shake the hand of "Mr. Ak-Sar-Ben," Harold (Castro) McClenahan, WAØDGA, (left).



Trail of Bonfires

By: Publicity Committee - Dave Moses, WAQGD
Erv Heinz, WAQEM

NEBRASKA CENTENNIAL REENACTMENT OF THE "FIRST NIGHT AIRMAIL FLIGHT"

Wednesday, February 22, 1967 - -
from Lee Bird Field, North Platte,
to Eppley Field, Omaha, Nebraska

Takeoff time: 7:57 p.m. CST
Arrival time: 10:50 p.m. CST

The First Night Airmail Flight
reenactment Brunner-Winkle Bird,

piloted by Dusty Rhodes of Sidney,
followed the Platte River Valley
from North Platte to Fremont, Ne-
braska, and then directly to the
Omaha Field. His biplane passed
over bonfires and amateur radio
mobile stations with volunteer
firemen at these towns and cities
from North Platte east:

Maxwell, WOOHK
Brady, WQYYV
Gothenburg, KQBYK
Cozad, KQPYX
Lexington, WAQCM
Overton, WQWHY
Elm Creek, WAQLRP
Odessa, WQBNF
Kearney, WAQIKG
Gibbon, WAQOKC
Shelton, KQTSU
Wood River, KQHNT
Alda, WAQKLC
Grand Island, WAQDEM

Chapman, WQEXK
Central City, WAQBOK
Clarks, WQJOY
Silver Creek, WQQMY
Duncan, KQRPC
Columbus, WAQKGN
Schuyler, WQIKZ
Rogers, KQSCN
North Bend, WAQKGD
Fremont, KQJFN

Other alternates and fixed stations
participated along the route.

CENTENNIAL BONFIRES (See picture)

During the *original* flight volunteers maintained bonfires along the Platte River Valley to light the way of pioneer pilot Jack Knight. The Nebraska Volunteer Firemen and Municipal Fire Departments maintained bright fires in the shape of a huge "C" (for Centennial) along the flight path, some even on the water. Dusty commented on the way that these small towns with their firemen and radio hams went "way out."

The Nebraska Amateur Radio Operators maintained a radio communication net from North Platte to Omaha, before, during and after the actual flight. They did a remarkable job and all are to be commended. Clyde "Red" Longstreth, WQSAI, and the North Platte Radio Club, Harry Snyder, WQNV and the Pioneer Radio Club of Fremont,

Carl Maggiore, WQLEP, and the Grand Island Radio Club, and Dorothy Townsend, KQOUK, Net Control Station from North Platte, should receive special recognition for an outstanding job well done. Mobile and base stations relayed the exact location and time of the Centennial Flight reenactment plane to interested citizens and dignitaries numbering about 350 that followed the Centennial Flight to Omaha's Eppley Field.

Ham operators from Omaha and the Ak-Sar-Ben Radio Club were: the destination station, Lou Cutler, WQVLI; who put in his usual top performance; Dave Moses, WAQGD; Jim Kendall, WAQFYO; John Orr, WQPHW; Harold McClenahan, WAQDGA; John Snyder, WQWRT; Royce Johnson, WAQKIL; Dick Eilers, WQYZV; Erv Heinz, WAQEEM; Bob Lockwood, WAQDHU. ➡





Dick Eilers, WQYZV, posts ARRL Radiogram that Centennial Aircraft is airborne.

Harold McClenahan, WAQDGA, and Dave Moses, WAQGED, set up Galaxy V for public to monitor net frequency.





Royce Johnson, WAQKIL, uses his "wit" in handling the traffic from Lou Cutler, WQVLI.



Royce Johnson, WAQKIL, with Radiogram poses with Horseless Carriage Runner.

A Centennial bonfire burns bright.
(Photo by WQVLI)





Mr. Pentleton, left, reads latest ARRL Radiogram of flight progress.

Mr. Coffin with the Centennial Commission greets Airmail Flight pilot.





Governor of Nebraska, Norbert Tiemann and Centennial Queen Nancy Griffin welcoming pilot at Eppley Field.

Centennial Queen Nancy Griffin "sees that the Airmail went through."





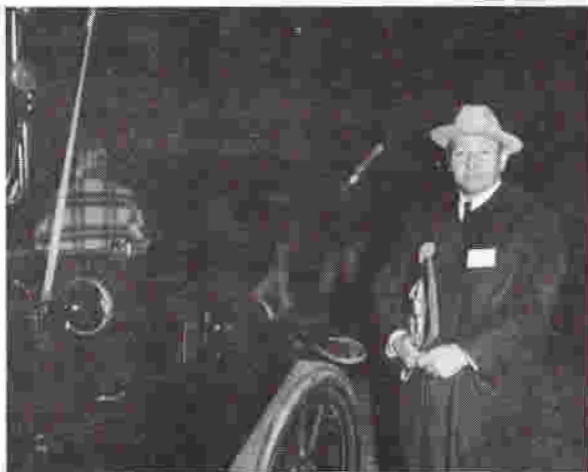
Pilot Dusty Rhodes gives an immediate report of his flight.

Destination station WQVLI, Lou Cutler, checks about flight details.





Lou Cutler, WQVLI, greets visitors from Destination Station at Eppley Air Field.



Lou Cutler, WQVLI, compares the "old" with the "new" after completion of flight.

Dick Eilers, WQYZV, congratulates Pilot Dusty Rhodes upon his successful flight for the Amateur Radio Operators.



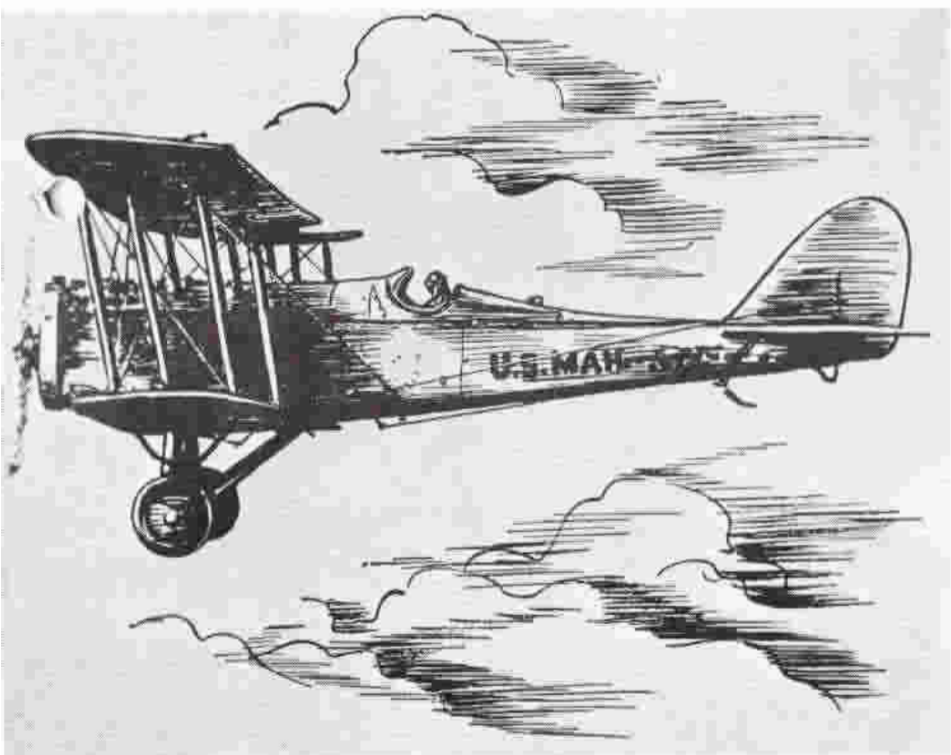


Omaha Hams get together immediately after flight to have eyeball QSO.

The Ak-Sar-Ben Radio Club worked with the outstate Nebraska Ham Radio Operators. Progress reports of flight were immediately provided via the Ham Radio Mobile Units from the various sites into Omaha Eppley Ham Radio Station.

Copies of approximately 80 ARRL Radiograms presented to Dusty Rhodes, pilot, at reception immediately following flight, by President Erv Heinz, WA0EEM.





Dusty reports at press conference at reception.





A special word of thanks to the Omaha Airport Authority for their cooperation with our Ak-Sar-Ben Radio Club and the Horseless Carriage Club of Omaha.

THIS PUBLIC SERVICE JAZZ

While tuning across the six meter band a few days ago, heard a station make the following remark. "I'm getting a bit tired of this amateur public service jazz. As far as I'm concerned, the need for Amateur Emergency Communications is no longer required. Of course, ten years ago it was a different story, but now with all the communications of the county and state agencies and of course Civil Defense, the amateur is no longer required--well--perhaps for the first ten minutes in an emergency, then after that, no. If I can't get on the air

and have some pleasure just chewing the rag, and can't enjoy my ham radio without becoming involved in this so-called public service, then they can have my ticket and I will forget all about ham radio."

Observed by W4FP, Lakeland, Fla.

(Editor's Note: One question for the operator of that station, "What about the great blackout in greater northeast section of country? Ten Minutes?" I can just hear his reply, "IT CAN'T HAPPEN HERE!")

from Florida Skip

OPERATION HELLO

As a guest of the Marine Corps, Hugh Tinley, KØGHK, recently had a ten day visit to the Far East.

Over the past three years Hugh has been handling a steadily increasing volume of traffic from the KR6's, most of it from casualties recovering in the hospital on Okinawa. Though all branches of the service maintain amateur and MARS stations, Hugh's traffic has come from the Marine Stations, KR6FQ and KR6GF.

In February of 1965 the Marines were sent into combat in Vietnam for the first time. Shortly after this they shifted Tinley over to handling casualty traffic. It bothered him, as it would anyone, to "reverse the charges" to a mother whose son was wounded. He paid for some of these calls, so did his friends, and then the Lions Club joined in. The phone bills continued to mount and when they were approaching \$600.00 a month the clients of his company, the Farmers National Company, took over the expense. The Navy became increasingly interested in this project, particularly after Hugh and his people started sending letters to the families who received the calls explaining how the calls were made. These letters reflected the voluntary arrangements and the serious efforts that the Navy as well as the service clubs were making to unite these families.

In September of 1966 the Navy and Air Force asked Hugh to concentrate on MARS frequencies directly into Vietnam. He is oper-

ating now on his own frequency, 19,956.5 kc under the call sign NØHFØ and working with two stations in Danang. The major share of this traffic is handled by Norval Bowen, WAØNPF, and his wife Connie, WAØMYF. Hugh, for his part, handles mostly Air Force traffic with thirteen stations in South Vietnam and six in Thailand.

Apparently Hugh had a great time on Okinawa. The Marines were anxious that he didn't forget them and gave him a simulated rank as a Colonel, assigned him a driver, car, and several enlisted men to clear the way for him. He visited every base on the Island and met all of the operators with whom he has worked and apparently had a ball working DX on the KR6 stations. He returned to Omaha fifteen pounds lighter, with circles under his eyes and a wrung out expression that goes with ten days and nights without sleep. "I didn't want to miss anything" was all he could mumble as he staggered in -- apparently he didn't.

In a serious vein, however, the Marines wanted to impress on him in every way possible the immeasurable value they place on patch traffic. This was underscored when Hugh stopped in Honolulu to brief Lt. General Victor Krulak, the Commanding General of the Marines in the Pacific. General Krulak asked Tinley to lay out the plans on how the service could be expanded along the lines set up in Omaha.

OUR GIFT TO FIGHT HEART DISEASE

Our Ak-Sar-Ben Radio Club participated in the counterattack across the nation being waged against heart diseases. We did our part on February 26th by working on a mobile drive picking up donations, handling traffic and communications from the Heart Fund Headquarters to other workers, and coordinating amateur radio with the successful drive. The following Hams participated: John Evans, WAQLMA, Stuart Russell, WAQNZG, Fred Fischer, WØEGP, and Jr. Op. Kurt Fischer, Edward Kilton, WØEYR and XYL Jean Kilton, Royce Johnson, WAQKIL, Virginia Johnson, WAQNCO, Harold McClenahan, WAQDGA, and Jr. Op. Bobby McClenahan, Edmond Donze, WQYEV, Lou Cutler, WQYLI and Erv Heinz, WAQEEEM.



Royce Johnson, WAQKIL, and
XYL Virginia, WAQNCO

Kurt Fischer, John Evans, WAQLMA, Ed Donze, WQYEV, and Stuart
Russell, WAQNZG, with Fred Fischer, WØEGP in background.





Ed Kilron, KØEYR, and XYL Jean

Fred Fischer, WØEGP



NOTES

Preparations are now being made on a new membership roster to come out early in June. Reinstatement billings are being mailed to past members and renewal billings are being mailed to current members. If your dues are behind for this year or if you have allowed your membership to lapse, please try to make your membership current before the June deadline.

It's not too early to start thinking about the upcoming Ham Auction in April. Look through your junk box, drawers, shelves, nooks and crannies for some items you would like to put up for sale. You might be amazed at the amount of "goodies" that will turn up. What you may consider as "junk" may well be exactly what another Ham is looking for. As most of us know, resale value of home-brew gear and junk box parts is almost nil, so the Ham Auction presents itself as an ideal opportunity for you to sell these odds and ends and perhaps buy some long sought after item. We had a very successful Auction last year, our President, Erv Heinz, WAQEEM, being the very able auctioneer. We are looking forward to an even better one this year.

The Ak-Sar-Ben Radio Club members would like to extend their condolences to our fellow member and Past President, Joe Berounsky, KQQDB, on the recent loss of his father.

We want to thank Dayton Phifer, WQVEA, of North Platte for his timely tips and articles and for

keeping us regularly posted on the North Platte gang. Keep 'em coming, Dayton!

David C. Moses, WAQGD
4247 Curtis Ave.
Omaha, Nebr. 68111
Home Phone 453-2637
Bus. Phone 344-3227

SILENT KEY

Our Club members were very bereaved when we learned of the untimely silent key--Gerhardt Wiard, KQSRV, of Sutton, Nebraska. We extend our sincere condolences to his family.

REJUVINATED

Rolly Fried, WQYMU, is recovering from a gallbladder operation at his QTH and is welcoming QSO's. Be sure to check in and give him your best wishes. He even had his rig with him in the hospital!

FOR SALE

One - HQ 180 Receiver	\$250.00
One - HT37 Transmitter	250.00
<hr/>	
Total - -	\$500.00

In good condition.

Bob Lockwood, WAQDHU
3711 N. 56th St.
Omaha, Nebr. 68104
Phone: 451-7233



Awards Dinner - Boys Town - March 1, 1967

BOYS TOWN AWARDS DINNER

The Boys Town Amateur Radio Society held their annual Awards Dinner on March 1st in the High School Dining Hall at Boys Town. A fine program was conducted by Bernard Stacy, WAQNCJ, President of the Boys Town Amateur Radio Society.

In behalf of the Ak-Sar-Ben Radio Club, Inc., President Erv Heinz, WAQEEM, presented special letters of commendation to Bernard Stacy, WAQNCJ, and to Bernard Meyer, WAQNCU, for their outstanding ambition and initiative displayed in the Boys Town Amateur Radio Society. Special recognition was given for their participation in the preparation of "Shack-Yak," which is the club's own house organ and which displays the warm, friendly atmosphere of Boys Town.

A special recognition plaque with the Boys Town Amateur Radio Society call letters WAQOGI en-

graved thereon was presented to Pat Nolan, WAQPCD, the Club's supervisor who accepted in behalf of their Club.



Msgr. Wagner, Director of Boys Town, addresses group.



Erv Heinz, WAQEM, presents awards.

LET US STRENGTHEN THE AK-SAR-BEN RADIO CLUB!

Show a personal interest in your Ak-Sar-Ben Radio Club. Work in our organization can become quite cold and impersonal unless Hams go out of their way to inject a warm, personal note to everything they do. Countless opportunities exist for Hams to work together. Take a personal audit, for instance: be cordial instead of distant or hostile; blend gentleness with firmness when you must take a stand; keep lines of communication open; disagree without becoming disagreeable; give assurance to those who are frustrated; respect the feelings and viewpoints of other Hams, no matter how much you may differ; and listen attentively when other Hams

have the floor. Whispering or causing distractions is discourteous, to say the least. The Ham who helps his club through experiences which foster individual Ham development and capacity for group learning and working with other Hams is helping promote amateur radio against the pressures and propaganda that today threaten the individual Ham and tend to rob him of his privileges. Also, Radio Hams helping the Ak-Sar-Ben Radio Club recognize that they can and must learn to work together to achieve our Club's objectives while continuing to be unique individual Radio Hams.

Erv Heinz, WAQEM
President

Febr. 11, 1967

Ham Ham
Ak-Sar-Ben Radio Club, Inc.
Omaha 1, Nebr.

The VHF Gang met at the home of KØYRL, Joe Miller; host was KØFRU Harold Detour, Wellfleet, eleven Tickets present, including three from Wellfleet, one from Ogallala, and one would-be visitor.

Discussion was about participating in the North Platte to Omaha Commemorative Flight, Febr. 22, and about two meter gear and antennae.

Short demonstration of two-meter mobile by WØVEA, using a vertical whip, mounted in center of cartop, held in place with the magnet from an old PM speaker. It worked out OK, but as usual WØVEA missed the switch and turned the tuning knob and lost contact for a few minutes, and his antenna connection pulled part way out, but all was remedied and a fairly successful run was made.

That vertical is simple to make, strip the spider from a PM speaker, with the largest magnet you can get, put tape over the magnet to keep out shavings from the drill, drill a 1/4 inch hole through the top, to one side of the magnet, squeeze in piece of plastic tubing, or other insulating material, drill hole on side for metal tapping screw, insert 19-inch whip, solder center conductor of coax to whip, outer conductor to an eyelet to fasten to side with the screw, pack the coax and whip base with plastic or rubber. When solid, set the magnet-loaded base in center of cartop,

connect to two meter rig and tune it up. As a precaution, use masking tape to hold the coax down and bring it in through car window. Stands up well at normal road speed, and have no idea, yet, how fast you can drive before upsetting it.

Have the idea that most any two meter type antenna could be mounted above a cartop by using three or four PM speaker magnets and 19-inch plastic rods to set it above the car top. Easy on/off, and sure holds better than expected.

KØFRU has a Siamese cat that loves Ham radio, so he named it Kitty-Watt; he has no trouble at all to put a Kitty-Watt on the air.

73,

Dayton, WØVEA

HOW TO RAISE A DELINQUENT

(Tx SHACK-YAK)

1. When he picks up bad words, laugh at him. This will make him think he's cute.
2. Never give him any spiritual training, wait until he is 21, and let him "decide for himself."
3. Give a child all of the spending money he wants. Never let him earn his own. Why should he have things as tough as you had them.
4. Satisfy his every craving for food, drink and comfort. Denial may lead to frustrations.
5. Take his part against neighbors, teachers, policemen. They are all prejudiced against your child.
6. Prepare for a life of grief. You are bound to have it.

How to Check and What to Do About Certain Mobile Noises

Have engine tuned up, spark plugs and distributor points replaced every 10,000 miles. During this tuneup, inspect and thoroughly clean the distributor cap both inside and out. Use a dry cloth and compressed air for this cleaning.

Resistor plugs may be used along with resistive type ignition cable. This treatment is not normally required for suppression, neither is it harmful to the engine or car performance.

Careful removal of the resistive type ignition cables, one at a time and checking resistance with an ohmmeter on a medium range will reveal any bad cables. They should check approximately 4,000 ohms per foot or 333 ohms per inch. Submerging all of the cable except for the ends in a tin can of water and checking with an ohmmeter on high range will reveal bad insulation. The cable should check open to infinity when checked from either terminal to the tin can. Cables found defective on this test should obviously be replaced. Resistor type ignition wire will not withstand mechanical abuse.

Leave the alternator alone unless you definitely know it requires service. The alternator cannot contribute to the ignition noise -- when you hear the alternator in the radio, it sounds like a fairly musical siren with the pitch of the whistle varying directly with engine speed.

Rev up the engine when cold to 1500/2000 RPM range and then turn off the engine while listening to the radio interference. If the noise stops instantly, it is ignition noise. If it coasts down gradually with the engine, it is regulator noise. Of course, a combination can exist where part of the noise stops instantly and part coasts down with the engine.

Inspect all engine ground straps, capacitors, etc. Learn to properly identify the various sources of noise and you can attack the problem intelligently.

de RARA RAG
Rochester, N.Y.

**OFFICIAL BULLETIN NR 101
FROM ARRL HEADQUARTERS
NEWINGTON CONN FEB 23 1967
TO ALL RADIO AMATEURS BT**

ARRL Affiliated Clubs and their members are reminded of the continuing availability of training aids designed to enhance club education and interest. The League's Training Aids Program includes technical films, film strips and slide collections as well as quizzes and tape recordings on many phases of amateur radio technique operation and history. Affiliated Club officers should request ARRL Training Aids well in advance of the date required. Full information is available from the ARRL Communications Department, 225 Main Street, Newington, Connecticut 06111 AR.

ARRL REPORT

Assistant Director
Atlantic Division, ARRL
E. S. VanDeusen, W3ECP
3711 McKinley St., NW
Washington, D.C. 20015

The Netherlands is the latest addition to those countries which have signed an agreement with the United States to permit reciprocal operations by their respective radio amateurs. The list now includes twenty-two nations whose amateurs may operate here under these arrangements as authorized under Public Law 89-313, and more agreements are being negotiated.

The new "Radio Amateur's Operating Manual" published by the ARRL is now available and, in my opinion, is thoroughly worth the \$1.00 price which is asked for it. As previously announced, W4MLE is credited with being the author, and he has done a very creditable job. Consisting of about 160 pages, the manual picks up where the Handbook leaves off and covers almost every conceivable phase of amateur operations. I find it quite interesting, although I can quarrel with the author on one or two minor points.

George Hart, WINJM, has been appointed as Communications Manager at ARRL Headquarters, effective February 1, 1967, to succeed Ed Handy, WIBDI, who retires at the end of January after more than 40 years on the League staff. George has

been a member of Headquarters staff for about 28 years, having started out as an attendant at WIAW. During WW II, George was an officer in the Army Airways Communications System and upon his return to the League staff was named National Emergency Coordinator.

The FCC has adopted a new Form 610, the application for Amateur licenses and actions. It is considerably more detailed than the old form, but is quite self-explanatory if instructions are followed carefully. It should be noted (the form does not so state) that for renewals or modifications, a photocopy of the current license may be used instead of the original. This was adopted some time ago, but quite a few licensees who would have liked to retain their expired licenses have, unfortunately, returned them to the Commission, from where they were not returned.

Bill Smith W1DVE, has taken over the VHF column in QST which has been handled for several years by W1FZJ and W1HOY. Reasons for the change are not announced, but it should be noted that the Harrisses have done a very fine job over the past years.

de Auto-Call
Washington, D. C.

The trouble with some people is that they believe they are broad-minded when in fact they are merely scatter-brained.

HITHER AND THITHER

Thomas Appleby, W3AX
5415 Connecticut Ave., N.W.
Washington, D. C. 20015

This may be a little outside of amateur radio, but it embraces radio non-the-less. A petition dated November 23, 1966, was filed with the Federal Communications Commission to withhold renewal of broadcasting licenses of the ABC, CBS and NBC television and broadcasting networks, stating that they are not operating in the public interest in permitting the broadcast of popular entertainment accompanied by commercials which extol the pleasure and "harmless" practice of smoking and thereby brain-washing a captive audience of millions of young children into believing that smoking cigarettes is the right thing for them, and also exposing millions of tobacco addicts to a weakening of their willpower making it impossible for the majority to stop smoking and causing deaths of some 300,000 persons during 1966, while parents and teachers associations throughout the United States are now conducting an Anti-Smoking program directed at seventh and eighth grade students which is financed by a grant from the U. S. Public Health Service, and while Dr. Luther Terry, former Surgeon-General of the United States has stated "unfortunately as the facts on the dangers of smoking are presented to children, cigarette advertising continues to nullify these efforts."

The foregoing petitioner, the

American Anti-Smoking Association, has offered to place before the Federal Communications Commission "hundreds of letters from individuals from all over the United States who desperately ask for help to enable them to break their cigarette habit."

It will be interesting to see what the FCC considers "operating in the public interest."

HOW COME 50 OHM COAXIAL CABLE?

Have you ever wondered why we use 50 ohm coaxial cable as a standard? The "why" becomes quite logical once the facts are examined. The impedance of a coax line is determined by the ratio of the diameter of the inner conductor to the inside diameter of the outer conductor and by the dielectric constant of the medium between these conductors. Air, for instance, has a dielectric constant of 1.

Cables of different characteristic impedances are best for certain requirements. If power-carrying capacity is required, a cable having a conductor ratio of 1.65, which is equal to an impedance of 30 ohms, would be used. Requiring the lowest attenuation for the transmission of rf energy, a ratio of 3.6, equaling 77 ohms, would be the best choice. A cable for use with the highest voltage breakdown characteristic would have a ratio of 2.7 corresponding to an impedance of 60 ohms.

If one looks at all of the various characteristics, it appears that a cable of 50 ohms impedance is a compromise. A 50 ohm cable has about 10 percent more attenuation than the 77 ohm cable, about 1 or 2

percent less voltage handling capacity. However, another possibility arises. In the early days of UHF and microwave work, large powers were not available so the lowest loss type transmission line was used. This was 75 ohms. Later as low-loss-dielectric materials were developed such as polyethylene, they were used to fabricate flexible coaxial cable. Polyethylene has a dielectric constant of 2.3. Putting this into the formulas for determining the characteristic impedance of a coaxial line, the answer turns out, strangely enough, to be 51 ohms. For those interested, this formula is $Z_0 = \frac{Z_L}{K}$ where Z_0 equals the characteristic impedance of the cable, Z_L equals the characteristic impedance of the air line and K equals the dielectric constant of the material.

The formula for determining the characteristic impedance of coaxial cable is $Z_0 = \frac{138}{K} \log_{10} \frac{D}{d}$ where D equals inside diameter of outer conductor and d equals diameter of inside conductor.

de Pack Rats Cheese Bits
Phila. Pa.

**OFFICIAL BULLETIN NR 100
FROM ARRL HEADQUARTERS
NEWINGTON CONN FEB 16 1967
TO ALL RADIO AMATEURS BT**

The ARRL Intruder Watch has completed another full year of operations with more intruders having been removed from the amateur bands as a result. However, much educational work and constant vigilance are necessary. The Intruder Watch welcomes additional volunteers with two or three years amateur experience and good receiving equipment who can spend at least

two hours a week logging the calls of non-amateur stations in the amateur bands. RTTY operators, especially those with access to sophisticated gear, are still urgently needed. Volunteers please write Intruder Watch, ARRL, Newington, Connecticut 06111 AR

**WARNING: ALL MOBILE AND
PORTABLE STATIONS**

Recently a ham in Rochester, N.Y. reported that some mobiles in his area were receiving "pink tickets" for not including their location at beginning and end of transmission. This was checked with Joe Welsh, W3UQV, who indicated he had other reports about such "pink tickets." The interpretation of the regulation is that mobile (and portable) stations must identify their location at the beginning and ending on transmissions. This identification must be reasonably comprehensive. "...operating mobile in Philadelphia" is not sufficient; it should be "Philadelphia, Pa." or "Philadelphia, Miss."

There is no local monitoring station in the Philadelphia area and we who operate on 2, 6 and 10 meters have generally fallen into the bad habit of omitting location in beginning and ending of transmissions. Now many Philmonters are operating mobile SSB on lower frequency bands and are subject to "pink tickets" if they forget to give the location adequately. Apparently this is happening all over the country and the FCC is responding with "pink tickets."

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