WORLDRADIO NEWS

Year 5, Issue 7 50¢ January 1976

Van Dyke's advice saves amateur

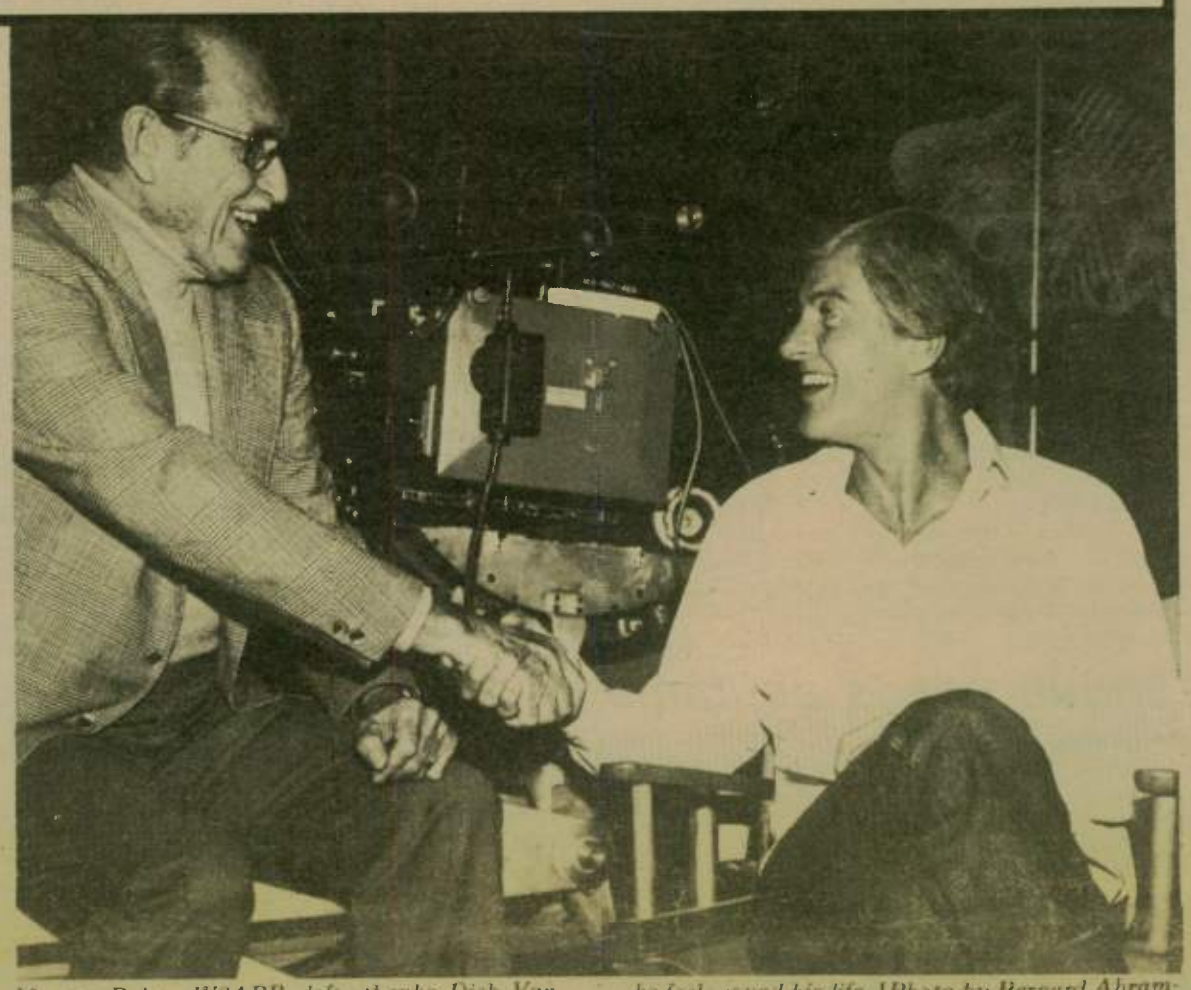
BOB JENSEN, W6VGQ

Life-saving results of his TV public service announcements were explained in person to Dick Van Dyke by Murray Bolen, W6ABR, as the star was filming a new series for the National Fire Prevention Association.

Recently Murray was attempting to light a barbecue when his clothes caught fire. His first impulse was, in panic, to run. Suddenly the face of Van Dyke flashed into his mind, saying to him, "Roll, roll!" as Van Dyke had advised on earlier fire-prevention announcements.

W6ABR then fell to the ground and "rolled" the fire out, a procedure he feels saved his life.

Later, he recounted the frightening experience on the air to Byron Paul, WA6RNG, who turned out to be the director of Van Dyke's series. Murray was invited to the filming of new announcements and he personally thanked Dick Van Dyke and the Association for their work in alerting the public to danger from fire.



Murray Bolen, W6ABR, left, thanks Dick Van Dyke in person for doing TV announcements which he feels saved his life. [Photo by Bernard Abramson, W6PJX.]

FCC relaxes renewal rules

The FCC has eliminated the requirement that an applicant for renewal of an Amateur Radio Service license state that he has met certain code speed and operating time requirements.

Under Section 97.13(a) of the Commission's rules, an amateur applicant seeking renewal of his operator's license was required to state that he lawfully had accumulated either two hours operating time during the last three months or five hours operating time during the last 12 months of his license term. He also was required to state that he was able to send and receive International Morse Code at a speed not less than that at which he qualified for the license being renewed.

The Commission said the rule was unduly restrictive. Under its continuing program of deregulation of the Amateur Radio Service, the FCC said it was attempting to eliminate such useless and unnecessary regulations.

"The imposition of operating time and code speed requirements for renewal of an Amateur license constitutes an unjustifiable burden on a class of people already shown by Commission examination to be qualified to operate an amateur radio station," the FCC said. It said it could see no purpose in depriving a person of his license because of a rule that had never been shown to have any beneficial effect.

"No one has ever demonstrated that any identifiable relationship exists between the requirements of Section 97.13(a) and an individual's competence as a radio amateur," the Commission declared.

Action by the Commission December 9, 1975, by Order. Commissioners Wiley (Chairman), Lee, Reid, Hooks, Quello, Washburn and Robinson.

Amendment proposed for volunteer examiners

The Commission has proposed amending its rules to require volunteer examiners in the Amateur Radio Service to submit photocopies of their operator licenses with requests for examination papers.

(The rules permit the examination for an Amateur license to be administered by a volunteer examiner selected by the applicant when it is shown by a physician's certificate that the applicant is unable to appear for an FCC supervised examination because of protracted disability. The volunteer must be at least 21 years of age and the holder of a class of amateur operator license equal to or higher than the class of license for which the applicant is being examined.)

Currently, the volunteer examiner, after administering the required test in International Morse Code, assuming the applicant has passed, requests the FCC to forward to him the written portion of the examination. This request must include a description of the examiner's qualifications to administer the test and the examiner's signature.

The Commission said, however, this procedure had proven unsatisfactory because the FCC had neither the resources nor the time to verify the qualifications or even the existence of the volunteer examiner. As a result, the Commission said, substantial abuse of the examination by the mail system had occurred.

Therefore, the Commission said its proposal to add a requirement that the volunteer examiner enclose a photocopy of his current Amateur license with his request for the written portion of the examination would provide a step towards a more efficient and fair system of examinations by mail.

This proposal would amend Section 97.29 of the rules.

(please turn to page 22)

License renewal procedure proposed

The Federal Communications Commission has proposed revising its procedures for renewing and modifying licenses in the Amateur Radio Service.

Currently, when applying for renewal or modification of a license, an amateur radio licensee may either submit the original license or a photocopy of it with the application.

The Commission said permitting applicants to submit a photocopy of their original license when applying for renewal or modification had proven unsatisfactory. In the past, the FCC said, some applicants had fraudulently altered their original licenses, photocopied them and submitted the photocopies, on which the alterations could not be detected. Such alterations usually were made to obtain operating privileges for which the licensee had not qualified, the Commission noted.

To ensure a reliable and fair procedure, the Commission proposed to require any application for a renewed or modified Amateur license to include the original license being renewed or modified. The FCC said it would no longer accept photocopies, except when an applicant applied for a new additional station license.

The Commission also proposed amending the requirement that the original operator license be in the possession of the licensee at all times by adding an exception to cover those situations where the original license has been submitted for renewal or modification.

Comments may be filed by January 22, 1976, and reply comments by February 2, 1976.

Action by the Commission December 9, 1975, by Notice of Proposed Rule-making. Commissioners Wiley (Chairman), Lee, Reid, Hooks, Quello, Washburn and Robinson.

Canadians need not furnish US address to operate amateur stations in U S

The Commission has eliminated the requirement that Canadian Amateur Radio Station licensees requesting permission to operate their stations in the United States provide a US address to which correspondence and documents may be directed.

The address requirement was eliminated to reflect the intent of agreements between the United States and Canada that allow amateur licensees from either country to operate in the other country on application to the proper licensing authority.

The action, effective 17 December, 1975, amended Parts 95 and 97 of FCC rules.

Action by the Commission December 2, 1975, by Order. Commissioners Wiley (Chairman), Lee, Reid, Hooks, Quello, Washburn and Robinson.

Ed Kelly, VP9GE, right, receives Amateur of the Year trophy from Bob Booth, W3PS, General Counsel of the ARRL.

Bermuda Society names Kelly

Ed Kelly, VP9GE, was named as Amateur of the Year 1974-75 by the Radio Society of Bermuda at their annual banquet in October.

Kelly's many contributions to Amateur Radio include activity in all modes, most recently satellite and SSTV.

Kelly is also active in the Caribbean Emergency Net which is on the air every Sunday; he was recently made net coordinator, Zone 1.

He has shown hospitality and friendship to visiting amateurs.

Regular contributions to *Splatter*, the RSB Newsletter, are made by Kelly who also gave weather reports during the last hurricane.

In addition Kelly, also known as G4BHW, HBØXTD, /W1 /W2, /DL, is one of the most prolific QSLers in Bermuda.

Congratulations from all of us, VP9GE!

Grenada needs equipment

The Grenada Amateur Radio Club (GARC) is in need of any used receiver, transmitter, antenna, etc. equipment.

GARC member Reuben Pursoo VP2GAT/W2, now living in New York, will receive donated equipment and forward it to Grenada. He may be contacted at 506 E. 45th St., Brooklyn, NY 11203.

Radio Amateurs called to help

Members of the Los Angeles County (CA) Communications Service were called out to provide communications for fire service agencies in the massive Angeles Forest blaze (24 November 1975).

Licensed amateurs of the Radio Amateur Civil Emergency Service of Los Angeles County manned radio facilities at the Glendale command post, at Crescenta Valley sheriff's station and at Crescenta Valley High School, a Disaster Communications spokesman said.

—*Pasadena Star-News*

MARCO awards

Ninth Annual Meeting of the Medical Amateur Radio Council, Ltd., 11 & 12 September, 1975, Reston, VA.

Presidential Plaque

Walter Shriner, M.D., W9CBG — President for years 1974 & 1975.

Certificates of Merit

David D. Harms, M.D. WRØDHX/HR1 — In recognition of his services during Hurricane Fifi, 1974. His work, demonstrated by his many flights over the affected area, brought to the attention of the world the first factual information of the vast destruction and loss of life. He made known the need for rescue work. This was followed by weeks of medical care.

Bro. Bernard Frey, OPM, Cap., WA2IPM — In recognition of his devoted services to further the ideals and principles of MARCO. This was demonstrated this past year, during Harricane Fifi, 1974, when he responded to the call for help by raising funds and procuring hundreds of dollars worth of medicine supplies and equipment for those in need in the disaster area.

Sol Katz, WB4EZZ — In recognition of his years of service to MARCO, obtaining medication and medical supplies for those in need in distant lands. He arranges for their procurement and delivery and follows up by radio to ascertain that the supplies reach the patient.

Sister Mary Emanuel, WA5VBM — In recognition of her years of service to further the ideals and principles of MARCO. She can always be called upon to answer questions on how and where to seek contacts with individuals throughout the world when a need arises. Her help has been incalculable.

Frederick B. Faust, M.D. K5PZN — In recognition of his perceptive communications to further understanding and exchange of constructive ideas.

Alfred Laun, W9SZR — In recognition of his many years in Amateur Radio. In the performance of such work, while in the service of his country, he nearly lost his life. He was the recipient of the *Award of Valor*, the highest award of the United States Foreign Service.

John A. Schindler, M.D. W4RFA — In recognition of his outstanding work coordinating International Radio Medical Information and his comprehensive development of rapid communication along with humanitarian relief in areas of disaster.

H.R. Miller, M.D., "Jungle Doc" — In recognition of his many years of devoted service to the sick and "forgotten" people in the jungle of Guatemala, Central America. He is the founder of Clinica Rural in that country. During the occasion of Hurricane Fifi, 1974, when sponsored by Radio VEA and the State police he travelled hundreds of miles to Honduras, treating the survivors, the sick, wounded, homeless and starving victims of the disaster.

WOW!

Eat your heart out.

Randy Nachtrieb, age 14, has his Extra Class license! He is WA6GJA, of Garden Grove, California.

Worldradio

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The Worldradio News is a two-way communication. Send in Amateur Radio information and news. Share your knowledge with your fellow amateur and **Worldradio** reader. We are most interested in your comments and suggestions. We would appreciate being placed on the mailing lists of amateur club bulletins.

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SENIOR STAFF
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Jack Schwartz, WA6TRZ
Linda Rutledge, WN6ECS
Craig Rutledge, WB6KTR
Bill Yost, WA6PIU
Judy Yost, WA6RAN
June Comarsh

Earl Shipley, W8GZX, holds the 5,000th QSL card before packing it for shipment to Tom Christian, VR6TC, on Pitcairn Island. Shipley's son-in-law, printer Lanny Combs, participates in the volunteer effort.

'Bounty' update

Earl Shipley, W8GZX, printed and shipped over 5,000 QSL cards to Tom Christian, VR6TC, radio officer of Pitcairn Island, a highly valued DX station from which to receive QSL confirmation.

In the November '75 **Worldradio** News Eunice Bernon, K8ONA, reported that Christian, great-great-great-grandson of *Mutiny on the Bounty's* Fletcher Christian, was in need of QSL cards. Christian sends out a thousand a month, according to his good friend Dr. Charles M. Mowher, W6HS, of California.

Shipley's son-in-law, Lanny Combs, is a printer and aided the QSL donation project which took place at the end of November.

Congratulations on a job well done!

PR Net

A "PR" net has been organized in the greater Los Angeles area to coordinate activities of radio amateurs and their possible publicity. Burt Hicks, WB6MQV, is net control on 2-meter repeater WR6ABN, calling in various publicity chairmen with information to exchange. Also, Virginia and Fred Drogmund, WB6EKK and WB6EKN, monitor this channel at other times to accept and coordinate information. Net time: Thursdays, 7:30 p.m.

The Council of Amateur Radio Clubs in this area is encouraging all clubs and special groups to appoint Publicity Chairmen to seek favorable publicity in their own local newspapers, clubs, schools, etc. News items of sufficient interest for major papers, radio and TV require coordination to prevent undue confusion in notifying the media. All amateurs are requested to call interesting items to the attention of publicity chairmen or this net.

Suggestions for Public Relations efforts are most welcome.

One such came from Art Enockson, W6EA, who recalled when amateurs proudly wore tiny call-letter lapel pins and gladly answered questions from the curious, providing an excellent opportunity to "spread the good word" about the Amateur Radio Service.

10-year-old Novice

Lauree Dameron, WN1VUM, received her Novice license 30 September 1975 and is among the youngest girls to be licensed in the history of Amateur Radio in the United States.

Lauree became interested in Amateur Radio when her father, Vern Dameron, K1DRN, took her with him on a DXpedition to St. Pierre et Miquelon (see November '75 **Worldradio** News).

Lauree's transceiver is a Swan Cygnet 300B and her antenna is a dipole for 40 and 80 meters. For 15 meters she hooks on to her father's Hy-Gain TH6DXX.

The completion of Worked All States is Lauree's present ambition. She has 10 states worked and six states confirmed. Keep up the good work, Lauree!

VA Hamfest being planned

Combining a seaside vacation with a two-day Hamfest is the thought behind what's happening Saturday and Sunday, 24 & 25 July 1976 in Virginia Beach, VA, under auspices of Tidewater Radio Conventions, Inc.

Hopes are that the Roanoke Division of the American Radio Relay League will hold its annual convention in conjunction with the affair. Division officials are currently considering the matter.

Several manufacturers and distributors already have indicated they will have exhibits and demonstrations at the affair, which will be the first large-scale amateur activity in the area. Tidewater Radio Conventions President Vern Fix, W4THN, declared this the first time most area clubs have gotten together for planning and financing an activity. Planning indicates it may attract as many as 4000 amateurs.

Though the event has been slated for the height of the tourist season in the Bicentennial year, surveys indicate that sufficient space will be available in the many Virginia Beach and Norfolk area hostelries and motels.

Headquarters for the affair will be the Virginia Beach Dome and Convention Center. In addition to programs by NASA, the ARRL, AMSAT and forums on various amateur subjects, a full schedule of events is being arranged for XYL and harmonic elements.

Promoters of the cooperative affair hope to make it an annual event. In a spirit of cooperation among all those interested in radio, Citizen Band clubs and manufacturers are invited to participate.

Admission price will be $1.50 for both days if tickets are purchased at least 30 days in advance, or $2.50 at the gate. Flea market rates will be $6 per vehicle, with indoor spaces for $12 per eight-foot table.

Further details are available from Tidewater Radio Conventions, Inc., P O Box 9371, Norfolk, VA 23505.

Club member aids ship

Why are amateurs so reluctant to tell us about their on-the-air events that provide a public service? Chuck Lechner, WB2LMA, is no exception but we at least got this much out of him.

He was working 20 meters when he heard a May Day from WAØTCO/mm2 on the motor ship *J.E. Johnson* 240 miles ENE of St. Johns Newfoundland in 50 foot seas in the North Atlantic.

It seems that Johnson was having a real rough time and one of the crew men had been swept off one deck to a lower deck and was seriously injured, requiring immediate assistance.

Chuck went to work and notified the Coast Guard in New York and carried out the ship Captain's request to phone the Geophysical Institute in Halifax which operates this research ship, commercial radio call VXY.

To make a long story short, which Chuck did, the injured man, who had a ruptured spleen and other internal injuries, was lifted off by helicopter to a hospital in time. Chuck is sitting on a beautiful long distance telephone bill for the whole event but feels good that he was there when help was needed.

—News Fuse, Hall of Science RC, Flushing, N.Y.

Rule for Extra amended

The Commission has simplified the eligibility requirements for an Amateur Extra Class license — the highest class license in the Amateur Service — by eliminating the requirement for prior experience.

The FCC said that the prior experience requirement had no beneficial effect on the quality of licensees advancing to Amateur Extra Class status.

Section 97.9(a) of the rules required that each applicant must have held an amateur operator license other than a Novice or Technician Class for at least one year, or demonstrated proof of an amateur operator license equivalent to a General Class license issued by a foreign government. Alternatively, the rule required evidence of a valid amateur radio station or operator license issued by any United States government agency prior to April, 1917.

The Commission said the rule prohibited otherwise qualified applicants from obtaining an Amateur Extra Class license. In easing the restriction, the FCC said its action would further its continuing efforts to deregulate the Amateur Radio Service, and it encouraged all amateurs to strive for this class of license.

An Amateur Extra Class license is now available to anyone except a representative of a foreign government.

The action amends Part 97 of the rules and becomes effective January 9, 1976.

Action by the Commission December 22, 1975, by Order. Commissioners Wiley (Chairman), Lee, Reid, Hooks, Quello, Washburn and Robinson.

Letter rip!!!

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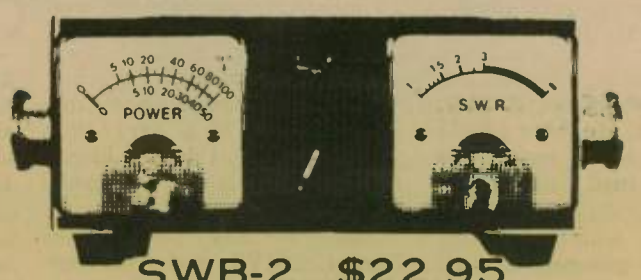

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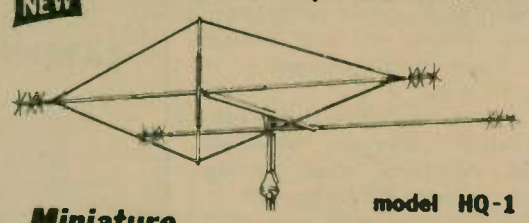

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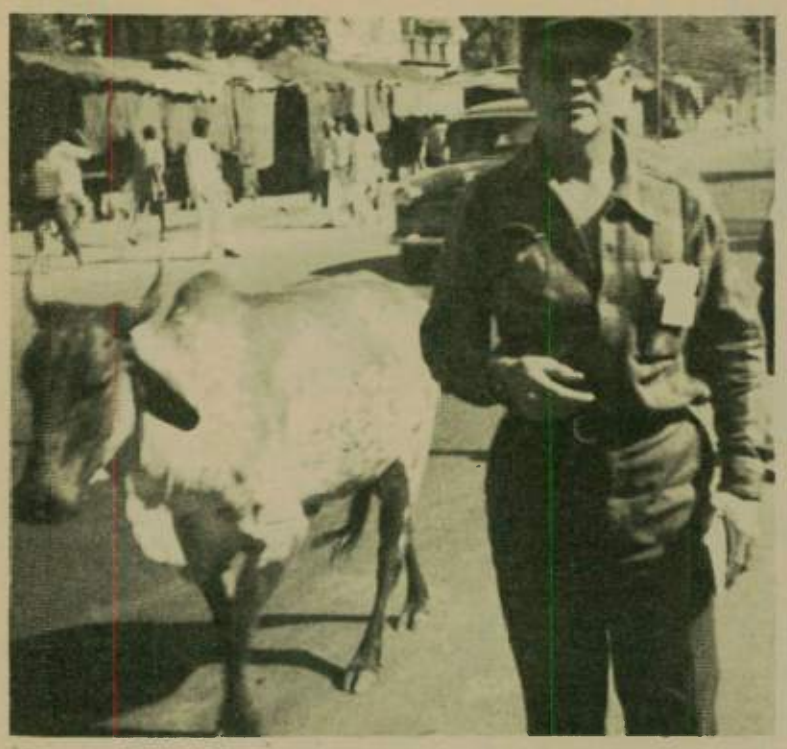


This picture was taken up the road from my hotel in Bombay. I asked a fellow to snap my photo as that animal behind me just walked by with no one hearing him.

Three continent tour by K6OPG

KENNETH MAHONEY, K6OPG

I've spent many happy hours working DX and very much enjoyed the QSOs I'd had with various amateurs on the air, especially Basil Unwin, ZS4AA. I decided that to see these people in person would be even more enjoyable. I tried, unsuccessfully, to talk my XYL, Billie, into taking a trip with me but I couldn't quite generate enough interest, so after getting my shots and passport, making the arrangements with the airline, and telling Basil when I was coming, I hopped on a plane and flew to Lima, Peru.

In Lima I visited a few OAs and then flew to Sao Paulo, Brazil where I had eyeballs with some PY2s. I flew to Rio de Janeiro and stayed with some Mormon Church friends while obtaining a visa for South Africa.

I flew 4,280 miles non-stop to Johannesburg, South Africa where Basil, ZS4AA, met me at the airport. We drove 120 miles to his QTH. I enjoyed staying there very much and was able to make contact with a station in Vallejo, CA (Phillip Bartlett, K6UJO). It was night time in Africa and about 10:00 a.m. in California so Phil contacted my XYL at her office. She then was an SWL. I told her I was going down to Cape Town, South Africa, 900 miles south.

I hitched a ride to Cape Town and made it in a very short period of time. I'd sure like to return there. It is a very beautiful city

After a stay with Denby Naeser, ZS1VC, and John Gerdos ZS1UP, I hitched a ride down to Durban, 300 miles southeast. I was very fortunate to be given a ride by a most attractive young lady, Gloria, who picked me up in her chauffeur driven Rolls Royce.

From Durban I traveled back to Cape Town where I was able to have a QSO with Respi Respicio, DU7ER, in the Philippines. From Cape Town I flew back to Johannesburg where Horst Fisher, ZS6BEJ, picked me up and kept me company during my 3-hour wait for my flight to Nairobi, Kenya.

Upon arriving in Nairobi I met some fine people including Robby Robson, 5Z4ERR. I was also able to go on a safari. So much happened that I cannot condense it all here. I will just include some of the highlights.

I finally boarded a jet for Bombay, India, where I met Saad Hsasan Ali, VE2ST, and his son Idrees, VU2IAZ. From Bombay I departed for Bangkok, Thailand, and after landing contacted an American who issued amateur licenses. Fortunately, after paying $5, I was issued a Thai call of HS1AGO. That night I made many contacts from an undisclosed location, even as far East as Nazir Mohammed, 9Y4VV, in Niger on Trinadad; Tony, 7Q7AA, in Malawi, Africa; and Colin McRae, 5R8AB, in Madagascar. Of course I had many contacts with the United States.

During this time I got the idea to try and visit Laos which was about 880 miles north. I got out my map and my American thumb and proceeded to get up there after about a day and a half with many experiences during that trip. I finally got to a river in Laos and found someone who spoke a little English. He said I could ride over on his return trip, but they wouldn't let me stay as

(*please turn to page 11*)

Kenneth Mahoney, K6OPG, in Nairobi, Kenya, Africa.

Ted, DU1TJ; Ken Mahoney, K6OPG; and Edgar de Jesus, DU1EJ, Vice President of the Bank of Manila, Philippines.

This gal picked me up a hundred miles from Durban, Natal, South Africa in her chauffeur driven Rolls Royce. The Indian Ocean is in the background.

Tower of Basil Unwin, ZS4AA, Kroonstad, OFS, South Africa. I wire brushed and painted the tower with two coats for him while I was there.

K6OPG in front of his hotel in Bombay.

4U1ITU

Stu Casper, W2PDM, with the model of OSCAR 7.

STU CASPER, W2PDM

Recently I had the most pleasant experience of visiting 4U1ITU, the International Amateur Radio Union station at Geneva, Switzerland, and being in attendance at Telecom 75.

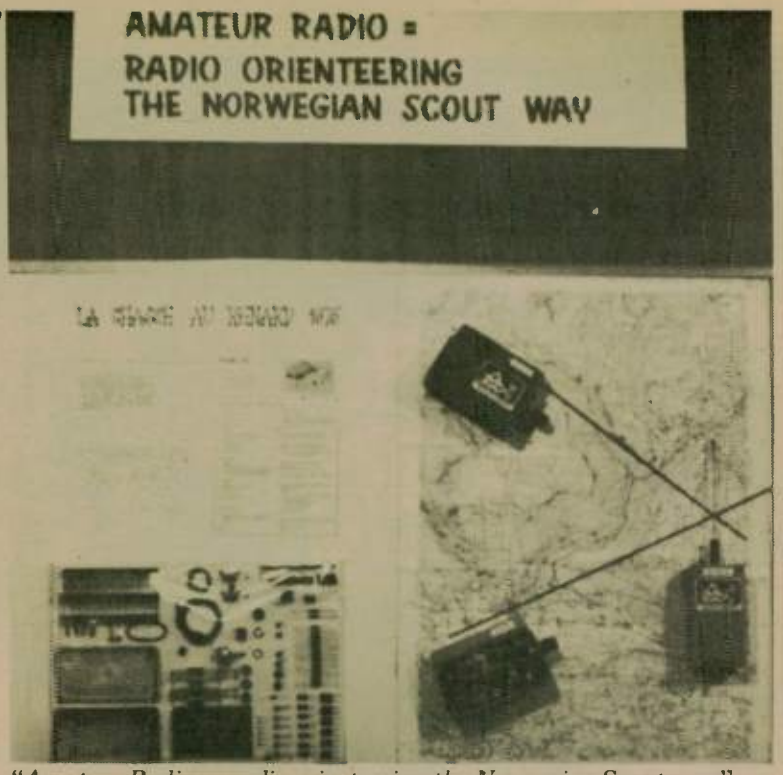
The gentlemen who take care of 4U1ITU (not HB4ITU) have been doing an outstanding job of representing the best in Amateur Radio to the world.

At Telecom 75, 2 October to 8 October 1975, sponsored by the International Telecommunications Union, ITU, these gents, members of the Geneva Amateur Radio Club, constructed an exhibit to show the world what Amateur Radio is about.

This exhibit had a full size replica of OSCAR 7, live demonstrations of ATV, Slow Scan TV, VHF voice links, facsimile and teletype. Professional quality color signs:

1. described AMSAT - OSCAR principles.
2. explained how OSCAR is a great educational aid, especially in upgrading electronic and communication skills in developing countries.
3. showing how new skills are taught by amateurs building their own equipment.
4. showing the Norwegian scout way and other Boy Scout programs in Amateur Radio.
5. showing amateur low-cost microwave propagation research.
6. illustrating how Amateur Radio builds worldwide fellowship and international understanding.

Literature on Amateur Radio was provided in English. Swiss amateurs represented many rea-

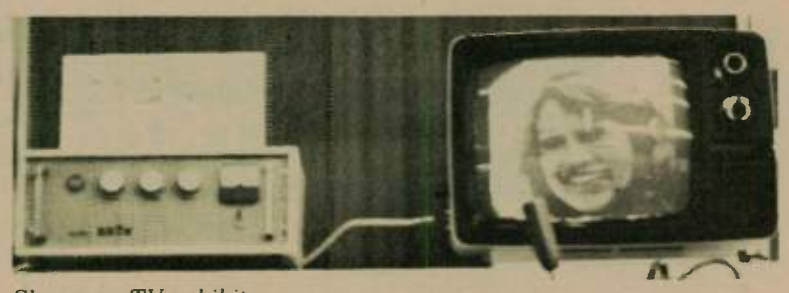


"Amateur Radio = radio orienteering the Norwegian Scout way"

The ITU building at Geneva. Note the beams on the roof.

"Amateur Radio = the teaching of new skills" — part of the Scout exhibit.

This is ATV on 70 cm band being sent from the ITU building three miles away — 4U2ITU. The view is out the window of the station location, showing the United Nations building at Geneva.



Slow scan TV exhibit.

"Amateur facsimile on 144 MHz radio link with 4U2ITU, Geneva."

Stu Casper, W2PDM, at the mike of 4U2ITU [4U1ITU].

sons why Amateur Radio is a valuable service that should be widely supported.

Representatives of the telecommunication branches of the governments of over 100 countries were at this exhibition. This amateur exhibit was one of the most heavily visited stands at the show. I am sure our cause at WARC 1979 has been measurably helped by this.

The members arranged a suitable time for me to operate 4U1ITU, which became 4U2ITU to observe the Telecom 75. Incidentally, operating this station is a rare experience as it is on UN property (the ITU), is considered a separate country and this is the only station in this "country". After trying a few chatty QSOs I realized the pile-up that had developed. To service everybody I switched to just giving signal reports, just like a hot DXpedition. I think I could have operated 24 hours and not satisfied all comers, but I had to break off after two hours and some great hamming.

●

Stu Casper, W2PDM, with some members of the Geneva Amateur Radio Club in front of the amateur exhibit, Telecom 75. You can see the full size model of OSCAR 7 and the 70 cm ATV.

Free tutoring

Gary Feldman, WA2UGO, Advanced class licensee, will gladly tutor up-and-coming Novices-to-be or will give any exams in his area.

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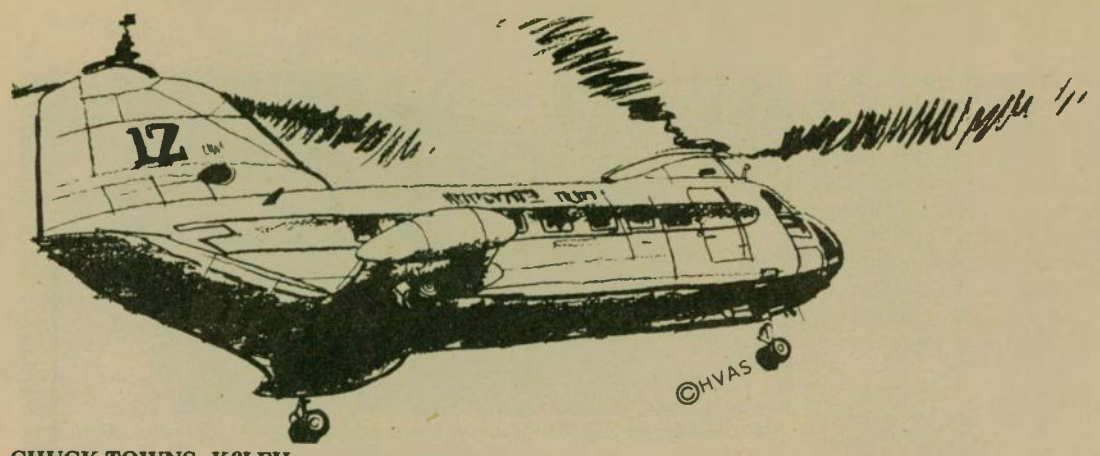
"Amateur Radio = low-cost microwave propagation research."

Part of the AMSAT-OSCAR exhibit.



International Emergency Communication Team

CHUCK TOWNS, K6LFH

(From a letter)

The purpose of this letter is to reply to all of you who have volunteered to participate in one or more parts of the Project OSCAR International Emergency Communication Team. I hope you will forgive me for not replying individually but time does not permit.

First, let me say "Thank you" for your letters of interest. As Armond Noble, W6AJY, mentioned in his editorial, **Worldradio News** for June 1975, this is a new concept that is being put together at this time on paper only. Jack Troster, W6ISQ, is the Project Leader of this task. I have given your names to him and they will be placed on the Project mailing list.

Where are we now?

We have discussed the broad concept with senior representatives of the FCC who are experienced in the international arena, and they have given us several guidelines that will aid in the international acceptability of the total idea.

What is this "idea"? Why is it? What will it do that is not now done?

The basic plan is to form a team of fity or less active amateur radio operators who would be interested and available in the shortest possible time to be flown and perhaps even dropped by parachute into an area where communication is needed on a life-saving mission. It is hoped that representatives of this team will volunteer from each of the Central American countries so that proper political guidance of the team effort will be available. It is extremely important that our "political amplifiers" be properly tuned before we pass our first message.

Obviously, personal and business reasons will limit each of us concerning our availability at any one time, but I feel that a team of five good men would be available from our "Bank of Fifty" regardless of when the call went out.

We here at OSCAR have given a great deal of thought as to the means by which our emergency team will be requested, selected and activated to perform. In the United States the logical interface would be the Red Cross. Internationally, this may not be the proper initial step. If you have any experience in this international area, we would be most appreciative of any comments. As you may know, the ARRL and the International Organization of Sister Cities have just formalized a Cooperative Agreement as we now have with the Red Cross. We are studying the possibility of enlarging the scope of this method of information flow to include the International Red Cross and, in addition, formal agreements that would reciprocate the help of each sister city to its foreign sister should disaster strike. This help would flow both ways and coordinated via the amateur operators in the respective sister city organizations. This portion of the initial program activity is only one means to the end — we await any comments you may have concerning the means and/or technique of implementation.

The reason for the development of the "Bank of 50" is to enable a trained team of experts to be delivered to the scene of the disaster in the shortest possible time with complete equipment and linked via Amateur Radio with co-members at various stations in the Americas. It is planned to maintain updated stores of typical equipments that will be required for immediate assignments as they are called for. We have all read of many nature-caused holocasts where the vital communication chores could have been handled more effectively if the very few amateurs actually at the scene could have been augmented by such a trained team in the matter of hours. It is obvious that much study and actual simulation of typical problems will have to be conducted, perhaps during one of our "field day exercises," to make sure that we will be able to contribute and help — not add to the confusion. It is our contention that the operators native to the disaster area should coordinate the activity of our emergency team and not involve themselves with detail message handling. Our team would, of course, work only through other team members in their home country, and message collection, identification and distribution would not be the task of the disaster-scene operator.

The men picked for the "Bank of 50" will need to represent more skills than just being good CW, SSB and RTTY operators. Most, if not all, should have passed the Red Cross course in emergency medical treatment and, we hope, some will be licensed nurses and doctors. Mechanical skills will also rate high because emergency power units will break down. Skills in foreign languages, especially Spanish, will be on the rating sheet. Perhaps the most important attribute is good health with a lack of allergies.

In the conclusion, let me repeat that even though the formation of the "Bank of 50" may not be implemented for many months, work here at OSCAR headquarters is moving forward on the international front. We feel this is an important first step without which we cannot operate with full effectivity.

If you know of any of your amateur friends who might also be interested, have them write me so that we can find out if there are enough men from which we may form our team.

Thanks for you interest.

M. C. Towns, Jr., K6LFH
President
13035 Regan Lane
Saratoga, CA 95070

Amateur Radio on TV

The "HARRY O" episode scheduled for January 15th on ABC-TV borrows three calls for the drama. They belong to Dave Hartsman (WA6ENL), Dana Wood (K6AHM) and Bob Goldberg (WB6OFO).

Dave and Dana work in one of the busiest "Production Sound Departments" in the Hollywood area, at Burbank Studios, along with Hal and Allan Landaker (W6ZQQ and WB6MKI) and Jim Froehlich (WB6ASZ).

Rescue

ED GRIBI, WB6IZF

13 October 1975 — At 1320 PDT Richard Key, WA6JDN, mobile called in on WCARS, 7255 kHz, requesting help contacting the Kern County Sheriff's Rescue Squad. A hunter had been lost for a day in the southern Sierra Nevada Mountains.

With Michael Delich, WA6PYN, relaying, Lloyd Poore, WB6OAO, contacted the Kern County Sheriff's Department and relayed information both ways from the site of the search. The hunter was found a little later that afternoon and appropriate information was relayed back to the Sheriff's office.

LA fire

JOE MCKEE, K6KW

The Glendale (CA) Emergency group was activated for the first time Monday, 24 November 1975, at about 1:00 a.m. when Dick Nuzum, WA6RTK, phoned Joe McKee, K6KW, from the Police Headquarters van located at Foothill Blvd. and Pennsylvania Ave.

Gene Baron, W6MHI, was base station. John Mayer, WA6LBJ, was stationed at Red Cross Headquarters in Glendale and later relieved by Lou Barnes, WA6TFR. Joe, K6KW, was at C.V. High School and was later relieved by Glen Carpenter, W6KDG. Jack Caughey, WA6CWG, did duty at Glendale City Hall. Dave Stoddart, K6INY, moved in at the Police van. Of course, if you haven't already guessed, there was a fire going on and getting too close for comfort.

Harry Rowe, K6VVT, phoned me first to tell me that there was a fire in the mountains. We were evacuated twice and believe me it was no joke.

—QSX, Crescenta Valley Radio Club

Support your local police

October 22, 1975

William Orienstein
President CARS
c/o NBC TV
3000 W. Alameda
Burbank, California

Dear Mr. Orienstein:

Citizen involvement with local police is of paramount importance in any crime prevention program. During the last year your organization has been instrumental in combating rising crime patterns within our area. Please convey our commendation to your entire organization. Your help has undoubtedly reduced crime in areas of deployment and saved our taxpayers in time and money.

If my office can be of any assistance during subsequent deployment please contact me.

L. Binkley, Lieutenant II
North Hollywood Area
Community Relations Officer
Los Angeles Police Department

Attention: teenagers

I am interested in starting a Teen Net. If you are under 19 years of age, I would like to hear from you.

If you are interested in joining the Teen Net please contact John Phillips, WB6WFQ, 750 E. Gettysburg Ave., Fresno, CA 93704, or contact **Worldradio News**.

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Larry, K6RPH
Roger, WA6RVL
Richard, WB6HWE

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Police/Amateur link begins operation

The wire line link between the Cook County (Chicago, IL) Sheriff and several area repeaters was placed in operation on 8 December 1975 with the MAPS, Pioneer and WAFAR repeaters on the line. CFMC, CFAR and SARA will join the system later.

A letter was sent by the Sheriff's Police to the six repeaters in the program announcing the turn-on date and explaining the system operation. The letter is reproduced below.

Basically, the system will work like this: When an operator sees an emergency requiring police action, he simply dials a Touch-Tone access code (probably 911) on the repeater. A Cook County Sheriff dispatcher will answer and be given the information requested in the letter reprinted below. When he is finished, another Touch-Tone button will disconnect the line.

Access to the police line is designed to be open to all amateurs whether they are members of the repeaters involved or not. The access codes will be public The Police/Amateur link is a project of the Illinois Repeater Council.

November 25, 1975

Mr. James Briggs
Midwest Amateur Propagation Society
17W122 Hawthorne St.
Bensenville, IL 60106

Mr. Richard Casey
Chicago FM Club
P.O. Box 1014
Arlington Heights, IL 60006

Mr. Donald Dehn
Pioneer Amateur Radio Club
225 W. Randolph St., HQ-27D
Chicago, IL 60606

Mr. Hal Ingram
WAFAR, Inc.
P.O. Box 291
Western Springs, IL 60558

Mr. Pat Kaiser
Suburban Amateur Repeater Association
2832 S. Pulaski Road
Chicago, IL 60623

Mr. Gilbert Kowols
Society of Radio Operators
216 BellePlaine
Park Ridge, IL 60068

Gentlemen:

Thank you for your enthusiastic support of the HAM RADIO-Law Enforcement line soon to be initiated. It is necessary at this time to set down the policy under which we would like to have it operate.

In general, Cook County Sheriff's Police Department (CCSPD) wishes to receive a report of any incident involving the immediate safety of life or property or a crime-in-progress. It is expected that the majority of calls will involve other jurisdictions; e.g., municipal police departments, state police, fire departments, etc. Traffic incident calls to report a stalled vehicle in a moving traffic lane of a major artery are requested, but incidents where the vehicle is off on the shoulder and there is no immediate danger should not be reported.

Amateur participants should supply the necessary information to our dispatcher in the following order:

1. **Amateur's call sign**
2. **Repeater Group**: MAPS, CFMC, PIONEER, WAFAR, SARA, CFAR, etc.
3. **Nature of Incident**: Traffic accident, personal injury or property damage (may be abreviated 10-50PI or 10-50PD); Car on fire, personnel within, yes or no; crime in progress, theft, burglary, fight, etc.
4. **Location**: Intersection, direction of travel; address, direction from major intersection; etc.
5. **Other details**: Description of offender or vehicle if appropriate.

It is impossible to list all acceptable and unacceptable calls. Only time and experience with the operation will indicate what is desirable and undesirable. Our dispatchers have been instructed to accept all calls; however, if the log indicates that excessive undesirable calls are being received, additional correspondence to each participating repeater group, redefining the policy on types of calls acceptable, will be forthcoming. CCSPD will do this as many times as necessary to firmly establish the policy.

Occasionally, during bad weather when many calls are being received, a police department will institute a 'traffic plan' whereby they request parties involved in traffic accidents to report to their police station to make the report. Keep in mind that individual police departments initiate and terminate their own traffic plans. CCSPD may not have immediate knowledge of a traffic plan in effect by other departments. As our dispatcher has no way of contacting the calling amateur once the disconnect has been made from the line, if there is a chance that a traffic plan may be in effect in that jurisdiction, the amateur should indicate to the dispatcher that he will 'hold-on' until either notified that the agency having jurisdiction is enroute or that the amateur should advise the parties involved to go to the nearest police station.

Time on the line should be kept to a minimum, particularly in bad weather where there may be many calls coming in; however, it is important that basic information be accurately relayed to the responding agency or parties involved in an accident.

We have set the official turn-on time and date for 0900, Monday, December 8, 1975. In addition, a press release will be issued at 1400, Wednesday, December 3, 1975.

Copies of this letter should be distributed to all members of your organization and users of your facilities.

Your comments and suggestions are requested at any time.

Yours truly,
For: Captain James J. Walsh,
Commander
Operational Support Division
By: Radio Engineer
Michael S. Kroot
Communications Section, OSD
—Squelch Tale,
Chicago FM Club

YOU!

are invited to contribute to this newspaper which chronicles the events and achievements of Amateur Radio.

Dallas amateurs praised by APSCO

WELDON BLAIR JR, WB5EWW

During the October conference of the Texas chapter of Associated Public Safety Communications Officers, Amateur Radio received very favorable comment from two of the conference speakers.

Col. Charles W. McCoy, Director of Civil Defense, City of Dallas explained the uses of RACES in Dallas County and how the system will be used for implementation of a mass city evacuation plan now under study. Officer Jerry Foster, Dallas Police Department, explained in detail the city's "Community Radio Watch" program and the use of the "FUZZ-BUZZ" by area Amateurs.

It is apparent that area amateurs have gained the confidence and respect of those in authority and have proved our capability in the area of Public Safety Communications. Hearing our Public Officials make comments at conferences such as this sure makes me proud to be an amateur. Let's keep up the good work

—In the DARC, Dallas Amateur Radio Club

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This was your free sample with our compliments...

We sent it to you to acquaint you with the contents. If you find it of interest you are most cordially invited to subscribe.

K6OPG

Taken East Africa near Nairobi.

(*continued from page 5*)

I had no visa. I could have obtained a visa if I'd have given them some Thai money but I didn't have too much of that. Also there were lots of gruesome looking bandits. I don't know how I made it back to Bangkok.

I did make it back after learning about how cheap a Thai train is. On the train I met an American girl from Seattle, WA and had a very nice visit with her.

On the day my visa expired I left Bangkok and flew down to Singapore which I thought was the very best place to live in the world. I called up Dr. Charan Singh, 9V1NR, whom I'd QSO'd from the States. He invited me to come out and stay with him. That night we went to a Singapore Amateur Radio meeting. I met a lot of amateurs there, including Big John (John Van Lear), 9M2IR all but the one that I wanted to see most. That was Jack Daugherty, 9V1QJ, whom I'd QSO'd just prior to my departure from the States. He told me if I were ever over there to look him up. Well, all the time that I was there (about a week and a half) I never could locate him. I did QSO with some VU2 boys from 9V1NR's QTH. I also contacted Edgar de Jesus, DU1EJ and Respi Respicio, DU7ER. I made plans to fly to Manila Philippines. I was supposed to fly to Hong Kong but I'd QSO'd with Respi, DU7ER, from San Francisco many times, and once from Cape Town and Bangkok, and I was determined to reach him.

Upon arriving at Manila, Fred Carino, DU1FC and Edgar de Jesus, DU1EJ, met me at the burnt out Manila Airport. I stayed with Fred for a time. Then he was kind enough to drive me to Edgar's QTH, 14 km north of Manila. I stayed with Edgar, who is vice president of Prendencial Bank in Manila, until their Wednesday noon meeting at a luncheon with many of the DU1 boys from around Manila. The group, of about 24, was interested in my travels from San Francisco via South America and South Africa, then flying to from Nairobi to Bombay and Bangkok and Singapore, then to Manila. When I told them that I was on my way to fly down to see Respi, DU7ER, a doctor in Escalante on the Negros Island, but had used my last $50 to get to Manila, they all pitched in and bought me a plane ticket to Bacolod City, 96 km from Respi's QTH. Edgar drove me to the airport.

In Bacolod City I was met by Ed (Dr. Eduardo Garcia) DU7EG, at the airport. He told me that at 4:20 that afternoon he'd received a land-line call from an amateur doctor in Manila telling him that I was coming in on the 4:30 flight. So he dropped everything and drove down to pick me up. He drove me back to his lovely home in Bacolod City where I had the pleasure of meeting his very charming wife.

That night Ed made contact with Respi on the 40-meter Philippine net and told him that

(*please turn to page 22*)

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Thank you

There is a Santa Claus

EUNICE BERNON, K8ONA

There is a Santa Claus. And on 20 December youngsters in the Pediatrics ward at Metropolitan General Hospital, Cleveland, OH, thrilled to individual conversations with him via Amateur Radio.

The communications link to Santa's abode originated from a third floor waiting room where young hopefuls entered by beds, carts and wheelchairs. They were greeted by Clevelanders: Lou Mide (WB8PSO), Kurt Meyers (W8IBX) and Ronald Cleveland (WB8RPG), who instructed them on microphone techniques.

Attached to Cleveland's two-meter equipment was an improvised antenna, a coat hanger, bent up vertically. Enchanted shortwave listeners reported excellent reception.

First voice heard on the air was Jerry Spencer (WB8OZA), "Stand by until we reach Santa Claus at the North Pole." (Squeal, Squeal, Squeal.) Next, "Ho, Ho, Ho, this is Santa Claus wishing you all a Merry Christmas. I am eager to speak to each of you. Please give me your name and what you'd most like for Christmas."

Santa Claus, actually Ken Gehres (WA8SVX), operated from Spencer's station. His deep, resonant voice personified the holly, bearded bearer of holiday gifts.

Responses were immediate and sincere. "Hello Santa, my name is George." Gehres replied, "I received a letter from your parents and I know what you'd like to have me bring you. I know, too, that you've been a good boy. Please put out a few cookies for me because I'll be hungry by the time I reach your house. Goodby, George. Ho, Ho, Ho."

Young Sandy Fedderson, of North Ridgeville, is a Reyes Syndrome patient. She recently underwent a complete blood system change. Her planned visit to see Santa Claus, in a downtown department store, was an impossibility. Naturally, she was eager to speak to him.

Guided by Ms. Fran Stachuar, Metro's Coordinator of Child Life and Education, Santa Claus—Gehres told Sandy he missed seeing her downtown, but that he would drop gifts down her chimney Christmas eve. That more than compensated.

It is reported that a small child, who had been in a coma for five weeks, opened her eyes for the first time at the sound of Santa's voice.

The gratified amateur radio operators concluded their Christmas venture by distributing lollipops to the happy recipients. Instigator, Lou Mide (WB8PSO), said, "Public Service is what Amateur Radio is all about."

The hospital's Ms. Stachuar added, "These amateur radio operators did a great job. It really helped the children; they loved it. We hope to repeat it next year."

Hadley helps amateurs

Blind persons interested in becoming amateur radio operators can now prepare themselves for official licensing and successful experience as "hams" through a special free correspondence course developed by the Hadley School for the Blind, Winnetka, Illinois.

Titled AMATEUR RADIO THEORY, the course was launched six years ago and rapidly became one of the School's most popular studies — so popular, in fact, that a ceiling had to be placed on the number of active enrollments and a waiting list grew.

Now taught by the course-designer and a second Hadley instructor, AMATEUR RADIO THEORY has been opened to unlimited enrollments and the word is spreading. Already approximately 50 prospective operators have been graduated, almost all of them are on the air and nearly 100 are presently enrolled.

The students vary greatly in age, background and geographical location. They reside in all parts of the United States and in such faraway places as Scotland, Mexico, New Zealand, the Philippines and India. One graduate is an eighty-two-year-old medical doctor who recently lost his sight; another is a high-school senior who has been blind since birth.

Offered without cost, AMATEUR RADIO THEORY is available in Braille and on tape. The student types or tape-records his answers and sends them to his instructor who in turn responds with a personalized letter or tape of correction, explanation and encouragement.

By mastering the content of the lessons the prospective amateur prepares himself to take the FCC examination for a General Class amateur operator's license. So far the Hadley graduates have an almost perfect record: the FCC test has been successfully passed by nearly every one who has taken it.

Hadley amateurs speak enthusiastically about their hobby. In addition to the sheer fun of "rag-chewing" via the air waves, they find satisfaction through many public-service and civil-defense activities. As one graduate now puts it, "My only regret is in now realizing what I've missed by not getting into Amateur Radio years ago."

The Radio Department welcomes inquiries about its course and its club. All communications should be addressed to the Hadley School for the Blind, 700 Elm Street, Winnetka, Illinois 60093.

Amateurs help children

Amateur radio operators manned portable stations in hospitals to provide children an opportunity to talk to Santa Claus through a repeater station on top of Mt. Wilson.

The mountaintop repeater station provided the link between the hospitals and the "North Pole".

Hospitals visited included Huntington Memorial, Arcadia Methodist, Community Hospital of San Gabriel, and MacLaren Hall.

—*Pasadena Star-News*

Monk taps out voiceless messages

MARGARET LOCKLAIR
—*Evening Post* Staff Writer

In the silence of Mepkin Abbey a monk in flowing robes taps out messages on a homemade radio set.

He is known as Father Benjamin Clark, or as WB4OBZ, depending on how one meets him.

Father Benjamin is a Trappist monk, one of 25 who live beside the Cooper River on the plantation-turned-abbey near the town of Moncks Corner, SC.

Silence is the way of life at Mepkin where men reserve their words for God.

But monks do not forget their trades, their skills, and Father Benjamin was licensed as an amateur radio operator before he entered seminary years ago.

Now he is part of a network of operators who relay messages in times of emergencies, as well as in happier times. Still, he does not use his voice, but the dots and dashes of Morse code.

The silent brothers at the abbey live a life that laymen consider austere. They rise at 3:10 a.m., for a day filled primarily with prayer and work. At 8 p.m. they go to bed.

But as Father Benjamin strides across the well-kept grounds it is plain that he is happy.

Father Benjamin, tall and kind-faced, was born in Detroit 52 years ago on Halloween — a coincidence of the calendar he considers highly amusing.

With a visitor, Father Benjamin is outgoing and eloquent; no stern rigid man, no dour expression, no guarded speech.

He jokes easily about the "chicken-libber" who visited the abbey recently and tried to liberate the hens from their houses. The hens, he says, stayed put.

He notes that a fellow monk will probably be startled one morning to find him perched in a large oak outside his room, stringing wires to boost his radio reception.

He does most of the electrical work on the buildings at the monastery and serves as the secretary of their organization.

The rule of silence, once so strict that monks communicated almost solely in sign language, has been relaxed somewhat out of necessity. Signs that were developed in the 10th and 11th centuries do not apply to modern equipment and machinery.

But the silence remains for the most part. Noise, Father Benjamin says, is a distraction in a place set aside for prayer, reflection and recollection — a place where monks pray for the world and the souls of those who inhabit it.

Some monks, he said, may not approve of his radio. They might object to too much communication with the outside world.

"But the church has to maintain contact," he says, "and this is a good way."

He noted that amateur operators provide the only form of communication in places of disaster, such as tornado-struck Xenia, Ohio and hurricane-struck Honduras.

Father Benjamin sees his visitors off at the gatehouse of the abbey, beside the large iron bell that they rang when they arrived.

He returns to his room, which measures six feet by nine feet, returns to the silence.

—*Charleston Evening Post, Charleston, SC*

CPARA project

The CPARA licensing project at the Harry S. Truman Children's Neurological Center has attracted sufficient interest that other organizations are now aiding in the effort to help handicapped individuals and Center staffers to obtain their amateur licenses.

While CPARA members are providing instruction and coordination, the Lee's Summit (Missouri) Council of The Telephone Pioneers of America is providing monetary support and the WECOMO (Western Electric) Amateur Radio Club is building solid state keying devices to be used by the Center.

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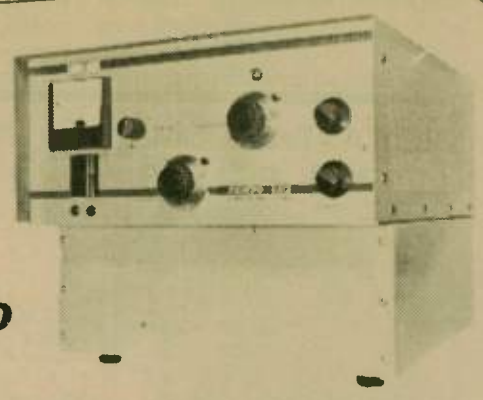

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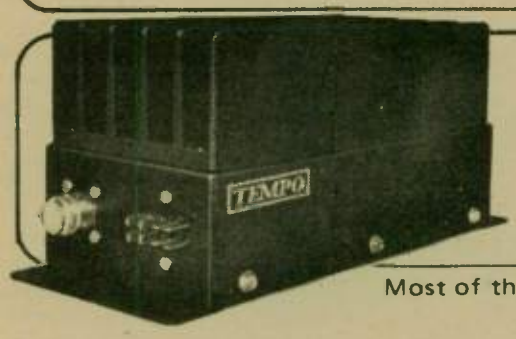

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2W	80W	80A02	$169
10W	80W	80A10	$149
30W	80W	80A30	$159

UHF (400 to 512 MHz)			
Drive Power	Output	Model No.	Price
2W	70W	70D02	$270
10W	70W	70D10	$250
30W	70W	70D30	$210
2W	40W	40D02	$180
10W	40W	40D10	$145
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Some of the 'good old days' . . . were good!

MYRON LAWSON, W5ACL

The new KW transceiver on the desk before me wakens memories of its many predecessors, back to that first UV-202 "5-watter" in the Hartley circuit 46 years ago, and renews my amazement at how far we have progressed.

When I received the call 5ACL in Dallas in 1923 there were still several spark stations in the area. The only available transmitting tube most amateurs could afford was the 202. Because d.c. plate power was either too great a nuisance or too costly, a number of stations used raw a.c. The more fastidious used two tubes in push-pull to have a 120-cyle tone. Sixty cycle a.c. was not available in all communities. I recall the beautiful warble a buddy in Arlington, Texas emitted with his rectified and filtered 25-cycles. Later, when intercontinental QSOs began, numerous foreign stations stayed with a.c. plate power. I remember how old pioneer DXer OA3B in South Africa would begin gargling up out of the background until he peaked at about S6T2.

Even now I dislike remembering my first and last chemical rectifier. It was a 48-jar unit under the house, strung out on planks. Strips of aluminum and lead had to be cut and drilled, and then a strip of each metal bolted together and bent "U" shaped to hang over the lips of two jars. Then a saturated solution of soda in distilled water was prepared for the jars. Before the places "formed" the rectifier had very low resistance. The favored procedure for forming the plates was to put a penny beneath the house fuse, grasp the insulated 115 VAC wire, close the switch for a few seconds and open it when the wire got hot. Three or four cycles of this would complete the job. After that all I had to do was check for evaporation about once a week, add distilled water as required and scrape off the white crust that would creep up out of the jars and up the electrodes. About every six months it was necessary to dismantle the whole thing, wash the jars, prepare a new solution and replace electrodes as required. No wonder one of the local amateurs threw out his chemical rectifier and bought 600 volts of "B" batteries! Several years later, when the first low-voltage-drop rectifier tube, the mercury vapor 866, became available, the price was $7.50 each.

Before we made it across the oceans, QSOs over more than a few hundred miles were the exception. This, together with the relatively few active stations and the emphasis on traffic handling, bred a closer-knit fraternity than was possible in later years. We could usually identify the operator by his fist and the individuality of his signal.

While government controls were still rather loose, the Fifth District R.I. in New Orleans visited Dallas at least annually to give examinations and inspect stations. Separate call letters were issued for portable operation. Mine was 5ATL. For a while I used a borrowed WWI ¼ KW airplane spark that had its own portable call. The banshee scream of its rotary gap could be heard two blocks away. I recall asking a 9 what wavelength I was on. He replied, "I can't tell OM; I can hear you all over the dial."

While most work was on CW, voice was surprisingly effective with a carbon button telephone transmitter connected to a small coil placed in the transmitter's inductance. The replacement rate on carbon buttons was rather high and the badge of a phone hound was RF burns on the tip of his nose. Loop modulation worked well enough for me to snag two Europeans on phone.

When the 80-meter band was first opened, and later for the first few months on 40 and 20, one had to search hard for someone to talk to. I used to leave on 40 when the DX countries each had their slot just above our band.

Soon after the opening of 40 and 20 we learned to remove the high-loss "bakelite" bases from our 5 watters and solder the four leads directly into the circuit. A few brave souls wired them suspended upside-down in oil and crammed in 50 W or more. No tube was considered adequately loaded unless the plate glowed a bright cherry red. One school of thought believed a brilliant white about right.

RCA's introduction of the UV-203A "50-watter" caused quite a stir. It had a ceramic disc in the base for the pins, and a ceramic socket was available. The original price, if memory serves, was $48.50, a small fortune in those days. I drove a buddy, 5AKN, over to Fort Worth to buy the first one in Dallas. We were informed that the tube carried no guarantee. After cradling it in his lap all the way back, and gently placing it in the socket in the rig, the filament lasted just long enough for a glance at the Jewell 0-10 ACVM to verify that the filament voltage was correct. Back we went for another one. It was a much better tube — the filament lasted nearly three hours! Again back to Fort Worth. Eureka! The third time was a charm. I was lucky in that my first one was good and gave years of faithful service.

The 203A went into a Hartley circuit assembled breadboard fashion on the right end of the operating table. The two inductances were coils of flat copper ribbon supported on glass towel rods. Plate power of about 800 VDC came from two d.c. motors rewired as generators in series, each coupled to a ½HP Century motor. The big marble-based key with ½ inch silver contacts was in the negative high voltage lead. This lethal arrangement was accepted practice. A high wattage resistor across the key reduced arcing and gave me a nice half-strength, commercial style back-wave near the main signal. Back-waves were quite fashionable then. The receiver was an exact copy of the famous Schnell Tuner described in *QST*. If this sounds crude to the Young Squirts, let me say that it was good enough to make *QST*'s "Amateur Stations" page with photo and description, and was used in obtaining the first WAC certificate issued in the Fifth District.

Those early regenerative detector receivers deserve a word or two. They are usuallly open breadboard and "bakelite" panel construction, and hand capacity was both a nuisance and a convenience. The latter was when the hand was used as a vernier to follow a drifting signal. Strong local signals would block your detector tube. This often led to either time-sharing or dog-eat-dog contests among the locals. Those oscillating detectors could be heard for miles. We worked each other across Dallas with keys in our "B" battery leads. Although we'd never heard of the word, we were using the first transceivers.

The antenna was an almost vertical 5-wire cage, worked against a 10-wire fan counterpoise about 7 feet above the ground. At that time we knew very little about RF current distribution on antennas, and didn't realize that we were bringing the strongest radiating portion of the antenna into the shack. The lighting of light bulbs in one or more rooms in the house, and using a lead pencil to draw sparks from the pins holding QSLs to the wall, were accepted as SOP.

If an antenna wasn't stretched very tight it would swing in a wind and cause the signal to swing. This became so annoying that one evening I tied the antenna lead to the springs of a bed in the room and worked an amateur in Atlanta who commented on how steady my signal was. My explanation that the bed was not occupied at the moment brought a, "Pls rpt OM; I didn't get that."

Soon after the first West Coast-Australia-New Zealand contacts, I had made the grade with a pair of de-based 5 watters in T.P.T.G. rig which one flatterer "down under" had said was consistently the loudest pair of 202's coming across. I could hardly wait to check with him on the new 50-watt rig. He said, "Sorry, OM, there are 50 watters louder than yours."

It was during this period that OT Soupy Groves, 5NW, would occasionally come down from Denton and we would take turns sleeping and keeping 5ACL on the air all night.

Quality components were still scarce and expensive in 1925-26. I remember paying $4.00 for an 8 inch "Ohio Brass" glassed porcelain insulator, about the first good antenna insulator to appear on the market. It supported the top end of my 85' cage. I had the sad experience of looking up at it during the worst hail storm Dallas has ever had, hearing it pop when an egg-size hailstone hit it and watching the cage fall.

I treasure the memory of two rewarding mornings on 40-meters. It was bitter cold that morning, 7 December 1925, when the alarm clock buzzed at 4:30 a.m. When I donned those icy headphones and tuned the silent band I finally heard a swinging 400 cycle signal calling "CQ de AQE." I assumed it was a ship station because in those pre-xtal control days the roll of the ship would vary the distance of the antenna from the water and this capacity change would cause the swing in the frequency of the signal. By today's RST scale the signal was about 565. AQE responded to my call.

The op said the ship was the *Sir James Clark Ross* in the Bay of Whales, Antarctica, 78°30' South; that they had been out of touch with civilization for over three weeks and asked if I could

(*please turn to page 19*)

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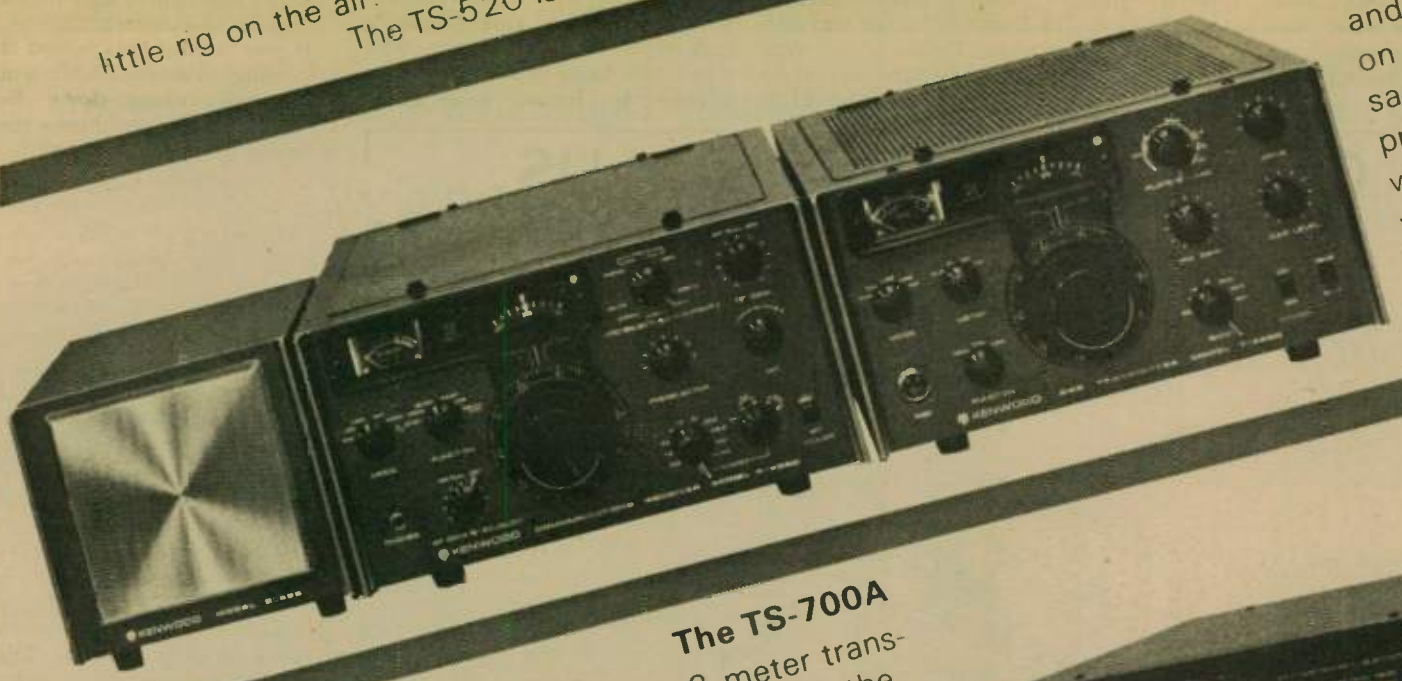
The TS-520 with its companion VFO-520 and SP-520

The TS-520 is the final word in SSB transceivers . . . the "hottest little rig on the air." Built-in AC/DC power supply, compact and extremely reliable. The TS-520 is loaded with features . . . loaded with Kenwood quality.

The TV-502

2m transverter . . . puts your TS-520 on the 2 meter band. Solid-state. 144 to 146 MHz. SSB and CW . . . priced right.



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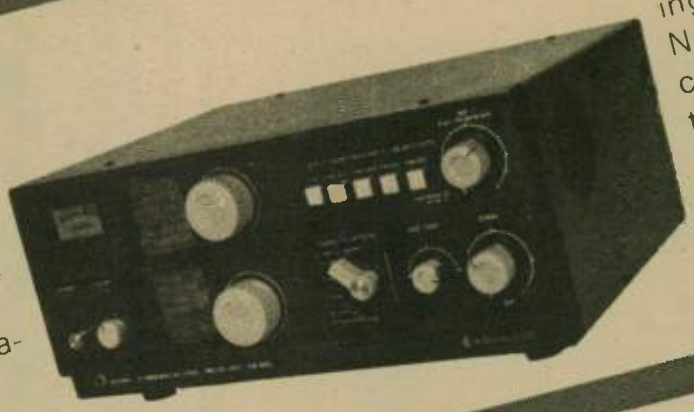
2 meter transceiver . . . the best! Operates on SSB (upper & lower), FM, AM, and CW. Built-in AC/DC capability. 4 MHz band coverage, 44 channels with 11 crystals.



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SET nears

DAVID LEWIS, K8MLO

We should learn from our mistakes. With that premise in mind, I have looked at the results of last year's SET to find out what weaknesses were exposed during the floods in southeast Ohio last January.

What I found out was: we did pretty darn well last year. Most of the problems we had were attributable to rig failures in one way or another. The weather was crummy in fact as well as in the script, and this did present a few problems due to high wind gusts. Still, the big problem was that the radios did not want to play right when we needed them in a few too many cases.

Toward resolving this perennial problem, there are two approaches. First of all, make sure your equipment is in A-OK condition at all times. Checking to see that gear is performing up to specifications should be a routine maintenance function, but most of us don't check anything until it shows smoke. Take some time now, during the holiday season, to make sure it all does what it is supposed to do.

The second approach is to be prepared to make simple repairs in the field. Bring along the manuals for your rigs. Bring extra tubes (those funny, weak-light-bulb-like glass bottles in those older radios). Bring VOM, soldering iron (battery operated!) etc. Then, when something does go wrong in spite of the best program of preventive maintenance, it can be put back into service.

Most problems encountered in any field operation can be successfully overcome if you are well prepared for any problems. As a Public Service of the Central Ohio AREC Bulletin, therefore, we re-present the famous:

Chuck Bennett Extensive Emergency Preparation List

WB8GQW's nationally famous emergency preparation list of 1972 has been updated and is presented in time for the Bicentennial SET. If you have everything on this list, you are very well prepared for any communications emergency!

- ___Radiograms
- ___Pens, pencils, erasers
- ___Station log
- ___Flashlight
- ___RIGS
- ___Microphone
- ___Broadcast receiver
- ___Matches—in waterproof box
- ___Key, straight
- ___Water, 5 gallons
- ___Eating utensils
- ___Hand towels
- ___Soap
- ___Can and bottle openers
- ___Soldering iron—110 & 12 v
- ___Sleeping bag
- ___Extra gas/oil
- ___Jumper cables
- ___First Aid Kit
- ___Hatchet/saw/axe
- ___Rope/guy wire
- ___Extra crystals/tubes/fuses
- ___Inclement/cold weather gear
- ___I.D. cards/passes/signs
- ___Generator 110 & 12 volt
- ___Scratch pads
- ___110/12 volt desk lamp
- ___Headphones
- ___Antennas
- ___Coax, long/short/patch lengths
- ___Maps
- ___Tools
- ___SWR bridge
- ___Speaker
- ___Food—three days' worth — not to be heated
- ___Face towels
- ___Toilet paper
- ___Mirror/shaving gear
- ___Aspirin tablets
- ___Alarm clock
- ___Blankets
- ___Siphon—gasoline type
- ___Shovel/pick
- ___Complete change of clothes
- ___Large wooden box for small items
- ___Extension cords
- ___Mast sections and base
- ___Tow cable
- ___Operator's license
- ___Phone book

—Bulletin, Central Ohio AREC

More SET. . .

In keeping with the bicentennial year, this, the 29th ARRL-sponsored Simulated Emergency Test, takes a page out of history, and in so doing, will differ somewhat from recent SET procedure.

Many years ago, it was not mandatory for every group to hold their SET on the designated weekend. So it shall be this year. SET weekend is January 24th and 25th, 1976, BUT, if this weekend proves inconvenient for you, we will accept reports for any SET held WITHIN ONE MONTH BEFORE OR AFTER the official SET weekend. All SETs occurring during this SET period will be included in the total SET results, in a subsequent issue of *QST*.

This method is being instituted in order to encourage as much 'grass-roots' amateur participation as possible, and that, gang, is where it's at. Of course it's up to you, the leadership (ECs, SECs, RMs, PAMs) to stage and coordinate your activities at the most meaningful time. This might take a little more work than is usually needed for SET, but as has been said time and again, it's a lot of work when a real (unexpected) emergency strikes.

The purpose of the SET is:

1. Find out our (AREC, NTS, etc.) strong points and limitations in providing emergency communications.

2. Help amateurs gain experience in communicating, using standard procedures, under simulated emergency conditions.

3. Provide a public demonstration — to served agencies such as Red Cross, C.D., search-and-rescue teams, etc. and through the news media — of the value to the public of Amateur Radio, particularly in time of need.

The general SET announcement appears in December *QST*. The SET will also be dealt with in the Public Service column of that same issue. Please be familiar with the basics of the operation which will be set forth in these two sections.

One of the first steps on the way to a successful SET is to endeavor to get as many people involved as possible. (Obviously, this is why we are calling for an SET period this year). In a real emergency, we find amateurs with all sorts of varied interests coming out of the woodwork,. Let's get them involved in SET so they will know more about how emergency communications should be handled. Talk-up SET on nets, on repeaters and amongst your ragchewing buddies, etc. Visit club meetings and get SET publicized in club and net bulletins. Contact inactive amateurs and try to get them psyched up. These efforts might pay off in the biggest SET participation ever. (You never know.)

Many of those who offer to help will be inexperienced in public service activities. It's up to you to explain what's going on to them and provide them with a useful role. They may like it so much that they become a permanent fixture in your AREC or NTS group.

Repeaters are a gold mine for public service activities. Repeaters and simplex frequencies have all sorts of possibilities for local nets, control frequencies, sources and delivery of traffic, etc. If the local repeater and 2-meter FM gang aren't already part of your local AREC group or liaisoned with your NTS local or section net, try to get them involved for the SET. This is an opportunity to get dozens of amateurs involved who otherwise may not even be aware of or interested in SET activities. It may lead to expanded facilities in the future.

AREC and NTS personnel are requested to employ both NTS (Evening) and NTS (Daytime) facilities. More on this later.

Caution your membership to be on the lookout for any real (i.e. non-test) emergency, priority or inquiry traffic; of course, non-test traffic should be handled before test equivalents.

A word about reporting forms. Despite the fact that there were some production problems with the 1975 results in *QST*, if you didn't see your score in the writeup it's probably because the net manager, EC, etc., failed to send in a SET report to HQ. The information and "scores" listed in *QST* are based exclusively on data garnered from the reporting

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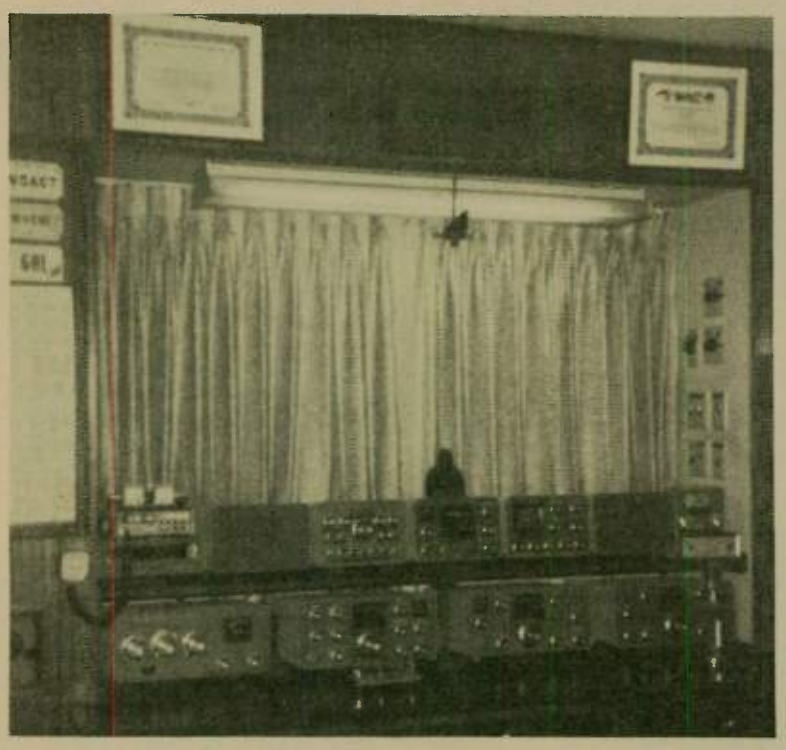
STATION APPEARANCE



Our Station Appearance award for January goes to Bob Harriss, K6VY, of Danville, CA. Bob will receive a one-year extension of his **Worldradio** subscription.

Bob's communications center meets all of the criteria for a room that speaks well of Amateur Radio. His equipment is neatly displayed. All of his certificates are framed and attractively arranged on the walls. The National Geographic map, weather instruments, etc. all greatly add to the attractiveness of the station. And, of course the library along one wall is a bonus added attraction.

The "Wireless Room" sign on the door is not only eye-catching but has a double meaning. Notice the neat arrangement of switches to the right of Bob's radio equipment — not a wire in sight. And, as seems to be the case with the majority of our Station Appearance winners, Bob also has a scope on the top shelf of his station.

Bob had an amateur station in Texas, W5ACT, in 1930 and closed it down the following year. He took off for what turned out to be some forty years at sea. He spent four years in the Navy and then three years on merchant ships as a radio operator. He then changed his line of work and went up through the chain in the deck department. He spent his last 20 years in command of oil tankers for one of the major oil companies, most of these years on the *SS Washington Standard WSUL.*

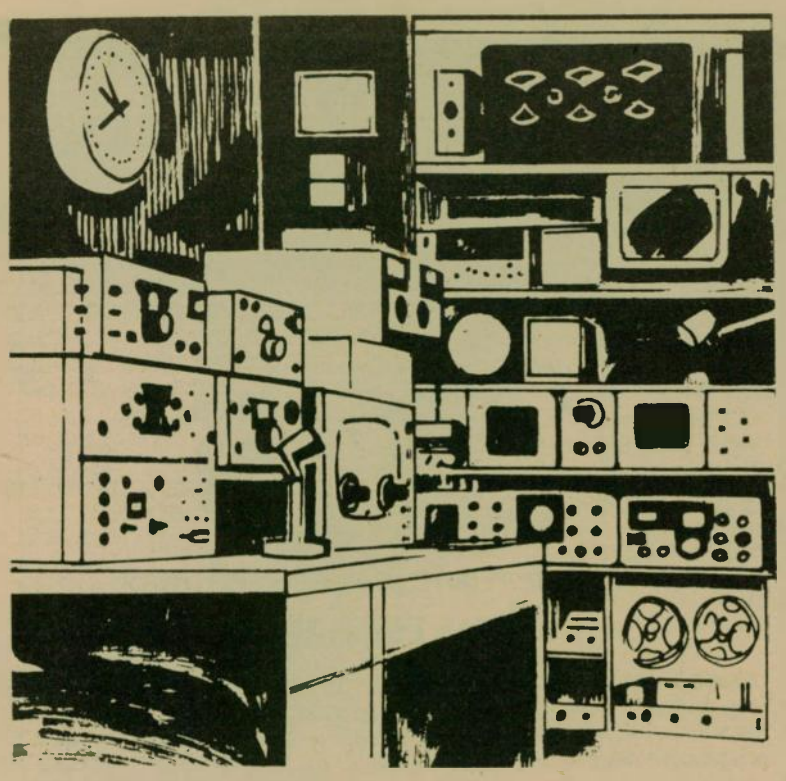
As Bob puts it, "When the rocks and shoals of retirement loomed ahead, my radio operators suggested my getting into Amateur Radio in order to keep occupied during the so-called sunset years."

Bob suggested Collins gear but the operators opted for Heath, probably, Bob feels, in the belief that putting it together might teach him something. So Bob purchased the SB line: 102, 301, 401, 200, followed by the 202 and accessories. One of those units on the top shelf is a sort of control unit that Bob and the radio operators built on the ship to shift the various antennas, phone patch, etc. functions back and forth between the transceiver and CW rig.

A few months ago Bob added an ICOM 230 for use in the car.

Most of the equipment was put together on the ship and "then the operators had the chore of teaching me enough to get by the exams. Economics being what

(*please turn to page 37*)



RACES

Is your community prepared to handle these emergencies?

Hurricanes
Blizzards
Tornadoes
Floods
Fires
Train wrecks
Earthquakes
Tidal waves
Blackouts
Relocation of people
Protest demonstrations
Strikes
Air pollution
Bomb threats
Falling aircraft
Nuclear accidents
Nuclear attack

Civil defense organizations throughout the country have an urgent need for the special skills of amateur radio operators.

If you are already an FCC-licensed amateur radio operator, by joining RACES (Radio Amateur Civil Emergency Service) you can help provide communications:

1) To warn against imminent natural or man-caused disaster;
2) To alleviate suffering;
3) To preserve property;
4) To maintain law and order.

RACES is a disciplined organization of amateur radio operators who help supplement state and local civil dfense communications systems in time of emergency.

In peacetime, natural or man-caused disasters pose a constant threat to the public welfare. When disaster strikes, normal communications systems are often totally destroyed or sustain extensive damage, and it is during these times that amateur radio operators must handle messages of vital importance for police, fire, rescue and other emergency services. Amateurs can provide the indispensable communications links between Emergency Operating Centers and various levels of government.

In wartime, regular amateur operations would cease in the event of enemy attack. RACES, however, under presidential proclamation, would be the only amateur radio stations allowed to operate — using specific frequencies within authorized frequency bands and under the direct supervision of the duly designated and responsible officials of civil defense.

RACES in operation

RACES stations operate under the direction of state or local government officials in conformance with the civil defense communications plans of those governments. Operating frequencies allocated by the Federal Communications Commission are restricted to regular amateur bands. Every RACES station is a member of one or more emergency nets. These nets in turn constitute a means of cross-communications whereby all levels of government, city and town emergency operating centers and outlying areas can be kept in contact with one another.

Communications is the key word to any successful response to disaster. Without rapid and accurate communications there can be no effective coordination of all the diverse activities that go into emergency operations. When existing communications systems prove inadequate to meet the demands any disaster creates, RACES must assure that essential messages are transmitted and vital activities are coordinated.

And RACES needs You . . .

Finest "equipment" available

State and local governments can obtain equipment for RACES use through the Defense Civil Preparedness Agency (DCPA) on a matching funds basis and through the Surplus and Contributions Loan Programs.

How do you become a RACES operator?

To join —

You must have an FCC amateur or commercial radio license. (The Temporary Limited Radio — Telegraph Second Class operator License and Aircraft Radio Telephone Operator Authorization do not meet this requirement.)

You must obtain written certification from the local or State Civil Defense Director attesting to your loyalty and reliability.

Use your skills to perform a vital mission to your community's emergency preparedness effort.

Contact your local Civil Defense Director to see if RACES has been organized in your community. If not, you can be the one to start such a group in cooperation with your local civil defense or public safety officials.

Put your talents to work — in RACES. For more information write to Defense Civil Preparedness Agency, Washington, DC 20301.

See CW

ESCONDIDO, CA — Sewhan "John" Kim used to be an amateur radio operator in his native Korea. But when he came to this country in 1965 he couldn't renew his radio license until he became a citizen.

With one thing and another it was 1973 before that happened and he found he had to study Morse Code again to pass the amateur radio exam. It took him about six months, working at it a half hour or more a day.

There must, he told himself, be an easier way.

Early this year Kim marketed the first units of the Atronics Code Reader, a device that he invented, designed, assembled and packaged that will instantly decode Morse signals and convert them into the alphabet, flashing one letter or number at a time on a small screen that looks like a digital clock.

It took a full year of pondering before Kim found a way to translate the erratic, human finger pulses of Morse signals into impulses that could be read and converted into the mathematical precision of electronics.

But Kim worked out a solution — storing longer units of sound in two registers and shorter units in one and coding them to a logical computer system. This easily went through a code conversion table, but there was another problem — getting the readout to be a visual alphabet.

But this was solved by preprogramming a computer memory to form letters and numbers by different combinations of a series of 16 strokes, which, when they are all called up on the readout (by sending a series of random signals), look like the outline of a British flag.

Then Kim went shopping at computer hardware supply houses and found the components he needed for the system he had designed. He made his own printed circuit board on a photo negative from his own enlarger (he also is a photo hobbyist) and gave it to the manufacturer as a pattern for placing holes in precise spots on the base of the ready made housing.

Being a man of prudence, Kim calculated the unit cost with himself doing as much as possible and decided his savings account (and money his wife had to buy clothes and extras) was enough to produce 10 units and advertise in the amateur radio magazines.

This he did; they were sold; proceeds were plowed back into inventory. From February to October Kim had made and sold 220 units at $195 each to amateur operators all over the world. He has a distributor in France.

He also devised an additional circuit board by which the readout may be attached to a machine like a teletype to give a complete, typewritten copy of everything that comes over the airwaves in Morse Code.

As the acceptance of the device was beyond Kim's expectations, he quit his job at NCR (a week before a huge layoff took place in which he might have been included) and set up shop in a back room of his home. His wife quit hairdressing and became the assembly line, and Mia, a freshman at Orange Glen High School, does the secretarial jobs.

Esther is a freshman at UCSD, and their son Ike, 12, is mostly interested in baseball at present.

Kim plans to explore the use of the device in teaching communications and in military training. He also is working on refinements to the device, like a noise filter to improve Morse Code signals, and on other inventions, naturally.

Next year he believes it will be necessary to set up a business and hire employes. At present he and his wife can make five of the devices in a day.

The Kims grew up in the same neighborhood in Pyongyang, North Korea, and moved to Seoul when the Communists took over the North. He attended Hangyang Technical College in Seoul and was married, had the two daughters and was working for a radio manufacturer in Pusan when he came to this country.

He enrolled at Pacific State University in Los Angeles, a small electronics college, where his biggest problem was mastering English (electronics, math and computer science use international languages, he said).

He worked for NCR in Hawthorne, and the family moved to Escondido when the Bernardo plant opened.

—Escondido, CA Times-Advocate

New special prefix

To commemorate the 50th anniversary of Radio Club Dominicano, Inc. the special station HI-50-RCD will operate from January to December 1976.

All QSOs will be confirmed 100% by special gold QSL cards via PO Box 1157, Santo Domingo, D.N., Dominican Republic, W.I.

Amateur Radio in Jakarta

RICHARD J. BROWN, DVM
YBØABV
U.S. Naval Medical Research Unit No. 2
Jakarta Detachment
APO San Francisco 96356

As to the Amateur Radio conditions here in Jakarta, I have filled five log books since mid-November. There seems to be a big demand for YB on CW. Each time I get on 20 with the beam headed toward Europe there is a pile up, many HA, OK, DL and Russians in the pile up. I had one good opening on 10 Sunday afternoon during the CW contest and worked 30 countries. Fifteen is open most days/evenings to Europe but with weak signals. I've had one good opening to Europe on 75 at 2320Z. R.P. Christiaanse, PAØGMW, usually comes in with a good signal every day on 75.

The amateurs in Jakarta are a friendly group with a good club. YBØJC processes the license applications under the reciprocal agreement and also gives the exam to the locals. He greets all with a big smile. He also puts up antenna systems after work and on weekends. However, since my tower and beam also support an antenna for the Embassy radio, the Indonesian Navy Communication Corps helped erect my antennas. They said it was an easy job because they usually put up log periodics. There are HF beams all over the city and all over Java. The German Embassy has two log periodics on top of their multistoried embassy.

The local QSL manager for YB is K.H. Kwik, YBØCJ, whose home is not far from my office. When he has QSLs he just lets me know on the nightly YB net and the next day I stop by his house on the way back to work from the US Embassy language lessons and pick up the QSLs. He will even tell you who the cards are from on the nightly net. How's that for service?

Since the 5BDXCC situation looks slim from here during this part of the sun spot cycle, I'm working toward the WPX. (I've already worked about 175 countries for DXCC.) The YD and YC prefixes can only work other Indonesian stations so I'm trying to pick up these unusual prefixes while I'm here. The YD run a few watts and are not required to speak English; the YCs are required to have some knowledge of English. The YB nationals have to be fluent in English. The YB prefix is the only one authorized for international communication. I hope to get permission to use the 8F prefix during the upcoming prefix contest.

Daily thunderstorms are a big problem here. Even in the mornings they are sometimes severe. They surely play havoc with 40 and 80 operation. Also broadcast and shortwave stations have no harmonic suppression over here and 40 and 80 are full of harmonics. We can only operate 7.0-7.1 and only a few frequencies are clear; 7.004, 7.010, 7.024 and 7.070 and perhaps 7.90± 3 kHz. Eighty is full of heterodynes too. We can operate 3.5-3.9 but there are other people trying to use 80 meters. The other day I was on 3.770 and a couple of Australian oil company guys told me to get off their frequency!! I was working J.C. Perhouse, 9M2DQ, at the time.

—*MARCO Journal*

Amateur Radio in USSR

The latest "Census of Amateur Radio Licenses of the World" in the call book shows 16,474 amateurs in the Soviet Union.

In a recent question and answer program heard on Radio Moscow it was noted that there are three grades of licenses. Grade three is for beginners and requires a very simple code and theory test. Maximum power permitted is ten watts. The second grade permits forty watts, while first grade allows 200 watts. Each step requires demonstrating more proficient keying and proficiency in DX competitions, as well as technical expertise. Moreover, all applicants must demonstrate an elementary knowledge of the English language.

Amateur radio in the USSR is considered a "sport" rather than a "hobby" and as such is supported much like other types of sporting activities.

—*JPL ARC Newsletter, Pasadena, CA*

USSR visit

ROY SUMIDA, W6WZM

My wife Linda, WB6QMD, and I were invited to go on a nine day tour of the Soviet Union with the California League of Cities. Naturally, we accepted with alacrity.

The tour group, comprised of mayors, councilmen, city managers and others all the way down to member of Park Commission (myself), was a full plane load (Boeing 707) of 180 people. They were all very congenial and amiable people so all had a great time.

The tour left San Francisco airport on 22 Oct. and after visiting Kiev, Moscow and Leningrad returned to San Francisco on 30 Oct.

After seventeen hours, refuelling at Chicago and Shannon, Ireland, we landed in Kiev at night. We were taken to our hotel which was built some eleven years ago. The hotel appeared very modern from the outside and our room was fairly comfortable, but the bathroom was of "1930" vintage; shower pipes, etc., were all exposed.

Kiev is the capital of Ukrainian SSR one of the fifteen Union Republics of USSR. It is a large, political, industrial and cultural center with a population of 1.7 million.

Of the three cities we visited I thought Kiev was the most beautiful. The beauty of the rivers and its hilly banks is accentuated by the splendid embankments. Kreshchatik is Kiev's main street and is most beautiful. It is a bustling, busy thoroughfare usually thronged with people. The famous Kiev chestnut trees add to the beauty of Kreshchatik with its handsome multi-storied office and apartment buildings, shops and restaurants.

At night we attended a ballet, "Romeo and Juliet," a splendid performance according to Linda — think I fell asleep a few times.

After two days in Kiev we flew to Moscow via the Soviet Airline "Aeroflot." I felt the "Aeroflot" was comfortable but not quite up to American standards.

The introduction to our hotel in Moscow, Hotel Ukraine (1000 rooms), came as a surprise. As we entered the huge lobby a strange but familiar aroma hit us. Later we noticed that the hotel was permeated with this aroma. The "so called" aroma reminded me of a Chop Suey house and this seemed strange since there was no Chinese restaurant in the hotel, or for that matter in the whole city of Moscow. Our room was comfortable but again the bathroom was similar to the ones in Kiev.

Moscow, of course, being the capital, is the largest city in USSR with a population of seven million. In Moscow the greatest attraction is the Kremlin. There we saw the Red Square (smaller than I anticipated), Lenin Monument, Kremlin Palace of Congress (very modernistic building), St. Basil's Cathedral, Tsar Bell. All in all it was very impressive.

I felt the trip from Moscow to Leningrad was the most enjoyable. We took an express night train, with sleeper, to Leningrad. The train left Moscow at midnight and arrived at 8:00 a.m.

Leningrad has a population of four million. We found people there to be the friendliest. There we visited The Hermitage Museum which ranks with the very finest of the world's art museums. We also saw Tsar's Winter Palace, shopping centers, and also got caught in a mild snow storm.

Here are some of my other observations:

1. People in USSR are honest. You can leave any valuables in your hotel room. Of the 180 people, not one person lost an item through theft.
2. People lacked incentive. Salespersons behind the counter never said "thank you" for purchases made.
3. People were well dressed and fed; — however, they did not smile.
4. We saw many policemen and military men as though the country was on a war footing.
5. Average monthly salary runs about 100 to 200 Roubles ($135.00 to $270.00).
6. Most people live in an apartment consisting of 30 sq. meters, or 322 sq. ft., about the size of many peoples' living rooms in the USA.
7. People pay 3% of their salary for rent. A person earning 200 Roubles (above average) will pay $8.10 a month for an apartment.
8. Today the average family consists of three people (parents and one child).
9. Education is free and compulsory to age 17, making the country's literacy 98% or better.
10. All medical treatments, hospital expenses, etc., are free.

All in all, I felt USSR has made a great advancement in the last twenty years. However, if I were going on a vacation, I would rather go elsewhere, such as SAROC in Las Vegas!

Grid Leak — Tulare County ARC

Good old days

(*continued from page 14*)

take urgent messages for one of our naval stations on the East Coast and to the families of the ship's officers in Norway. I QRV'd and took the messages. On a sked arranged for the next morning I took messages from members of the crew to their families. I agreed to be there the following morning but when I found AQE he was filing traffic with a 5 in New Orleans. I listened until AQE faded out. Although I monitored the frequency two or three mornings a week for some time I didn't hear AQE again.

In May 1927, I received a big, fat envelope postmarked "Canal-Zone". It contained 24 photographs of the ship, her fleet of whale chasers and whales and several spectacular shots of the Ice Barrier where, in later years, Admiral Byrd established Little America. Also enclosed were letters from the ship's Master, First Officer and Chief Radioman expressing appreciation for my assistance and requesting the same help on the following year's voyage. Later, from Norway, I was sent the timetable for the next sailing.

Now for the anti-climax! Although I heard AQE a few times, we could never make contact. This caused AQE no inconvenience, however, because in that one year short-wave technology had progressed so rapidly that AQE had no trouble working into the U.S. and Europe, including Norway. My limited research indicates that the *Sir James Clark Ross* was one of the pioneers in developing the modern factory-ship technique for whaling in the Antarctic.

[*cont'd next month*]

The American Radio Relay League

J.A. "Doc" Gmelin, W6ZRJ
Director, Pacific Division, ARRL

Number 10 in a series

In the beginning of this series of articles on the American Radio Relay League, we started to give some detail and description of the structure and organization of our national society. This could not be done in just one article, but has taken thus far nine. The League is as complex as is Amateur Radio, and Amateur Radio has become more and more complex through the years.

Like the first station that most of us started with (a simple transmitter/receiver combination), Amateur Radio itself in the beginning was simple. One only needed a simple transmitter made up of perhaps a small "spark" coil and an equally simple receiver made up of a rough diode detector and a simple tuned circuit.

Today Amateur Radio has become very complex and, during the period of our growth, we have seen our spectrum space grow from a limited space around 200 meters (limited because of simple technology) to cover many bands ranging from medium frequency through VHF/UHF to microwaves and perhaps, someday, even shorter.

When I started in Amateur Radio some 30 years ago we were around half way through radio history to date. Bands like 2 meters were considered only for experimenters and brave souls on the radio frontier. Now the 2-meter band is almost as crowded with repeaters as the 10-meter band was with AM phone stations when I first got on the air.

In those days not so long ago, just after WW2, we had all of the present type mode privileges that we have today, except that most could only be used on frequencies above 50 MHz or on higher bands.

On the bands where most amateurs operated (80 through 10 meters with no 15 meter band), everyone was either on phone or CW. And in those days phone meant AM phone; single sideband was almost unheard of.

I can remember seeing a demonstration of single sideband at the local radio club in 1948 or 49, and coming away saying to my friend Joe Oliver, W6YQN, that this new mode was far too complex for amateurs and sure sounded "tinny". "It will never replace AM phone."

At another meeting of the same club we saw a demonstration of something called a "transistor", which was kind of novel, but would of course never be able to replace a vacuum tube.

In retrospect, that turned out to be right since before the transistor could make a complete replacement a whole new microelectronics was developed where we no longer build circuits from discrete parts, but now in effect buy or (typical of amateurs) obtain an entire electronic circuit for some specific function on something called a "chip".

This series is about the ARRL and we might appear to have wandered from this subject, except that in watching the growth of Amateur Radio from AM to SSB and tubes to "chips" I have also seen the growth in the League. It has been my pleasure to be a small part of the growth of both Amateur Radio and the ARRL.

Like most other beginners in Amateur Radio I too joined the League in order to subscribe to a magazine. It was only after I had become involved with the local radio club and worked on nets and in other Amateur Radio events that I realized the importance of having a national Amateur Radio organization.

We have all read or heard about the importance of the League in the development of Amateur Radio, and how the League "saved our bands and got us back on the air in 1919." We have also read or heard how the League helped to obtain international Amateur Radio bands in the 1927 radio conference.

That, by the way, was when we came of age, since 1927 was the first time that we were recognized internationally. Our federal government in the United States recognized us in 1912 when the first amateur licenses were issued.

Yes, the League has always been at the front in preserving and helping Amateur Radio grow. But all too often we fail to understand what we really mean by "the League."

It was not the structure of the League, or a building in Connecticut we call the ARRL, or any radio stations that operate in the amateur bands, who "saved" Amateur Radio, or helped it grow, or did whatever else we give credit to the League for having done.

It was and is people who saved Amateur Radio, who made the advances, who organized the structure, who have done everythng that the League is said to have done.

And like people involved in any human enterprise, we have not always done "our thing" in an orderly or logical manner. We have much conflict. We have many different ideas and beliefs. We suffer from all of the faults of the creature we call man.

As in all other human endeavors, we suffer the basic conflict of how we can work together. On the one extreme we have those who would have "anarchy", in other words, who don't even want to work together in the first place. These individuals are just that, individuals. They will do everything on their own, letting everyone go off and "do his own thing."

But of course this leads to trouble very soon since what we do as individuals does affect everyone else. At the other extreme we have those who advocate some completely orderly system where everyone must do "their thing" in exactly the same way as everyone else. Such a system of "order" appears to be and is highly efficient.

We call this system a dictatorship, or despotism, for that is what it quickly degenerates into since as humans we cannot and do not agree on what this system of order should be. Someone has to and does come along and tell us that we must do it "their way" since "their" way is the right way, whether the majority agrees with that or not.

And such individuals truly believe that they have all of the answers, or at least know the place to get all the answers. When one questions their motives or system, a typical answer back is "you don't understand."

And between these extremes we have that system we call "democracy", which is still very much in the experimental stages. It is often not very efficient, although over the long run it has proven far more efficient than any dictatorship since the final output taken from all the "chaff" of arguments, debates and failures far exceeds that of any other system.

The fact is that a democratic system, where individuals all can vote and express their ideas no matter how foolish they may appear to some, is the basis of our League structure. This leads to much of our organizational difficulty.

For one thing, any radio amateur can express his dislikes for the League's system to the fullest extent by simply not taking part, not joining. And in the United States some two out of three radio amateurs have chosen to do just that by not joining the League at all.

We decry this fact if we are active League members, and we wonder just what we have done wrong. But could we get more amateurs to join the League by making it more attractive? Perhaps, but how many? One half, or three fourths, or nine tenths of the amateurs?

What about the tenth who did not join? Could we get them to join too? Of course, just pass a law that says all amateurs must be members of the League to be on the air. That's the way it is today in Russia.

There we are, right back where we started with the totalitarian system. It's 100% efficient, but would you want to pay the price of the loss of freedom to choose in order to gain this efficiency?

Another thing that active League members often decry is that there are those who speak out in print and verbally against everything the League does and stands for. These individuals blame the League for anything that goes wrong (and take the credit for everything that goes right).

That's another inefficiency that we must accept in our democratic system. And think about it. Do these individuals really do harm? As a strong supporter of the League I used to think so, but in retrospect, the sometimes radical, sometimes reactionary ideas expressed by such individuals often help many others to understand the real basic purposes and goals of the League. They give the necessary comparisons that we sometimes need to find the best way to organize our national Amateur Radio Society.

And of course in our apparently less efficient democratic system we must accept the fact that we most often get involved with the details and miss the "big picture" of what is happening. We argue over the little points and never get around to the big issues.

An example of how we do this in Amateur Radio is the "traditional battle" we have had for years between phone and CW. This is a ridiculous battle because, after all, both are just systems of modulation. Both are systems designed to carry information between humans. To say that one is better than the other shows lack of understanding of what human communication is in the first place.

After all, isn't communication what Amateur Radio is all about? Isn't it just communication by radio? It is, but we don't always communicate well even in Amateur Radio.

Now let's see what can and does happen in our democratic system. First we agree on some guidelines to give everyone a fair share. This is done by compromise by the legislative body (the Board of Directors of the League is an example). Such democratic bodies often work on compromise which to some individuals makes such a system appear very weak.

In the case of phone versus CW, we make phone bands and CW bands. While there will continue to be argument over how much space each mode will be allowed, both will continue to operate.

And since we have also the freedom to use other modes (in other words, the freedom to experiment) someone can come along and find a mode that is better than either phone or CW, one that is so good that everyone immediately starts using the new mode.

I could use as an example teletype, although that might get an argument going too. But it does give me a chance to illustrate a point. While RTTY might be the best way to rapidly pass written communications, you can't give much voice gesture on a model 15 or 28 teletype. In fact, since teletype is a faster system, it too has a lot of noise problems.

(It's interesting to note here that the commercial communications services have found this out long ago and are now on cable or wire systems or satellites. Many an amateur's next door neighbor would like to see Amateur Radio go to wire systems.

So if we used the totalitarian system where someone decides what is best and everyone uses that mode, we would all be on CW or phone, or whatever else was selected, and nothing else. There would be no freedom at all to experiment, to try and fail, to try again and succeed, to find a new and better way.

And to bring this to the final point of this article, what if we selected the way of anarchy and everyone went his own way? Then we would have no group effort at all, no group communications to help each other to advance for the good of all.

The dilemma we face is the fact that if we do have freedom to choose, we CAN choose not to take part as many do. A highly structured system such as that in Russia cannot stand this so everybody joins the group (or else).

In our democratic system we make an assumption that everyone is capable of making the right decisions and will join as necessary for the betterment of the whole.

Not everyone believes that we amateurs are capable of deciding the best course of action for ourselves. I do because I have faith in those who take the time and effort to obtain an amateur license.

Stated simply, we must have a national organization if Amateur Radio is to survive and make advances. The American Radio Relay League is the only such organization today. Therefore, every amateur who cares about Amateur Radio should join in this effort and should make his views known.

We need your help. Are you a member of the American Radio Relay League?

●

Write about what you find interesting. Chances are some others may also. Your article may open the doors to a new hall for others to travel down.

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a fiction article

XCVR tells all

MELVYN WESTCOTT, WA4KSJ

Let me make certain from the very beginning that you understand that I'm not complaining. Sure, I have my dull moments, but then there are plenty of the interesting times too. Like the time Mel (my operator) missed supper because JAs kept calling and calling him (after months and months of fruitless searching for any Asia station to complete WAC). But more of that later.

To start with I'd like to tell you about myself and my family. I suppose that most of you would consider me a rather everyday garden variety transceiver. However, I do know that when Mel unpacked me I saw bulletin boards covered with pictures of me and technical sheets that bared my innermost workings. So I was sure from the very start that I wasn't just an unwanted arrival, rather I had been well planned for (something special so to say). In fact, I found out later that the acquisition of my relatives and I were the end result of several years of planning (and building up something Mel calls his "Credit Rating").

But enough about me, even though without me this story would not be possible. Actually I'm not alone in this operation. Just to my right is my power supply. He is pretty important I suppose but all he does is hum a little, buzz a little and groan a lot. He lives in a black box, that matches my own, along with a remote VFO. Whenever I feel that I've lost control I can usually trace the feeling to that "power supply co-tenant". He has the gosh awful ability to take over my receive frequency, transmit frequency or (horrors) both. We coexist but that's about all.

Next in line is a rather strange "cousin" of mine. He looks just about like me and hears many of the same stations that I hear, but mostly he likes to listen to stations like Radio Moscow and HCJB. But the thing that makes him so peculiar is that he never talks to anyone. Mel says that this "shirttail" relative of mine is used for SWLing. Maybe so, but I still think it's odd that "Old Radio Moscow" never talks to the stations he listens to.

Next to him is another matching black box but just a speaker lives in it. We all know how important speakers are but, inasmuch as he talks all the time himself, I don't need to further extoll his virtues.

But talk about big mouths; on my left (just the other side of rotor control box and a couple of clocks) is the big brother of us all. Mel calls him a heater, footwarmer, black box, etc. but he's just using vocabulary left over from his active CB days. I personally know that my big brother is really a linear amplifier. He doesn't look like much on paper but the few vital organs he does have sure fill up his big black box (bigger than mine darn it). And besides, his power supply weighs 45 pounds and sits on the floor where Mel uses him for a foot stool. I'm sure glad he's with me rather than against me. Actually, I'm happy that he's around. Whenever someone can hardly hear me I call on my big brother and he shouts for me.

That about covers my family except for the rather weird long skinny box on the far end. He's not even black like the rest of us. He's green aluminum and spends his time soaking up RF which seems like a strange pastime to me. Mel calls him a dummy load. I wouldn't comment on that name for anything.

At any rate I promised earlier to tell you about some of my ups and downs. I already mentioned the episode with the JAs. Mel couldn't have been happier. We were getting ready to move to a new state and Mel was feeling bad that he needed only Asia for WAC and soon his QSL cards would be no longer valid for awards. Well, when those Japanese started calling him (by the dozens) I could tell that all of the time Mel spent studying for his license was worthwhile. No pills or drugs of any kind could have produced a more genuine "high" in him.

Another fine moment was that evening when I heard a thin watery voice announce that he was in Leningrad. Well, my big brother and I shouted for all we were worth and the Russian came back to Mel and me. Boy, "Old Radio Moscow" near the end of the bench turned as green as the weird dummy load that night.

But all is not one mad round of activity. When I moved to Georgia I was unpacked and set up on the bench with the others but for months all I did was listen, something about apartments not allowing antennas for transmitting. "Old Radio Moscow" snickered for weeks and weeks. I'm not so sure that muzzling a fine talker like myself was all that funny.

However, now Mel has bought us a house trailer to live in and antennas are permitted. He's putting up a trap vertical and a 3-element 20-meter beam so I should be able to shout all over the world soon.

Let me finish up by telling you my pet peeve. It's cameras. I don't know what Mel ever sees in them but periodically he goes "nuts" over one and completely ignores me for weeks at a time. He'll jaw about f-stops, focal lengths, ASAs and other assorted nonsense, seemingly forgetting all about good, solid, important facts and figures like wavelength, power, SWR and such. But let me assure you that in the end he always returns to his senses and puts the cameras away with his other childhood toys and fires me up again.

And why not? In the final analysis how can a mere chrome and glass recorder of images on silver ever hope to compete with a fine transceiver, such as myself, who opens the door to the whole world so to speak? Besides, no matter what Mel's current interest is I can provide more than enough spare time activity. If he feels agressive we can work a contest or two together or chase some DX. If he is in an especially benevolent mood we can always find an over-abundance of public service work to do. And don't forget the endless variety of rag chew I can provide. And not very often, but occasionally, Mel feels like tinkering with parts and pieces of "junque". There are many, many repair and replacement projects that he can work on to satisfy this whim. Also, lest Mel forget that his brain needs limbering up, occasionally I present some new facet of theory to him that results in mad abandoned punching of calculator keys for days on end (much to the chagrin of his XYL who thinks that Amateur Radio should be for communicating, not the working of knotty problems).

Oh! Oh!, cameras watch out. We've just heard about slow scan TV and if I can only get Mel to read the SSTV articles in **Worldradio** more carefully your days are numbered. When he finds out that he can combine optics and electronics in one grand hobby his days with the "You Push the Button We Do the Rest" crowd will be numbered.

Well, I have to get to work now. Mel has the new **Worldradio** open and is mumbling something about scan conversion and is absentmindedly tuning me to 14.230. So you "glass belly buttons" had better pack your filters and lens hoods and get ready to go back in the closet.

K6OPG

(*continued from page 11*)

I'd flown in that afternoon. Respi said wonderful. He arrived the next day to pick me up. We thanked Ed for everything and his very wonderful wife Nena for driving me around town that morning. Bacolod has 160,000 people.

Driving to Respi's QTH was really an experience I'll never forget. I'd never seen such terrible highways. Most of the roads were through sugar cane fields that required the driver to drive slowly enough to dodge the holes in the road. At times there would be very nice concrete highway for a few miles then it would abruptly turn into a tarred road with big holes. I talked to many local people and they all agreed that American cars just wouldn't hold up. All I saw on these roads were the American Jeeps and 4x4's and 6x6's that go right in all the sugar cane fields to gather the sugar cane. Also there were many of the American Jeepsters that the Philippine people use just for bus transportation. One day in Manila I counted 31 people pile out of one of the Jeeps that had an extended body and had stopped for repairs of some kind.

I returned from Respi's QTH with Meloy, DU7RLC, who is the nephew of the Vice President of the Philippines. While going through Bacolod we spotted Phil, Dr. Garica's, DU7EG, son, who asked us to drive to his QTH. He told me to stay for awhile until my plane left for Manila. Phil told me I could use his father's station (a TR4 line with FL2000 shoes). I made many contacts, even back here to the Bay Area where I talked to Phil Lieberman, WA6AZE, in San Francisco and Red Monroe, K6OWN, in Concord, CA.

From Bacolod I returned to Manila where I was met by George Francisco, DU1GF. We drove to the QTH of Lu Picache, DU1LRP, president of an air service company.

In a few hours I took off for Guam where I only had time to send a few postcards. I arrived in Honolulu in time to attend Mormon services at the Honolulu Tabernacle near the Waikiki area. I stayed at the Hickam AFB BOQ (Bachelor Officers Quarters) as I'm a former Air Force Major. I stopped off there to let my badly sunburned face heal up a little more while visiting Hawaii. I hadn't been back there since 1944.

From Hawaii I flew home to San Francisco, the end of an unforgettable worldwind tour.

Volunteer examiners

(*continued from page 1*)

Comments may be filed by February 2, and replies by February 12, 1976.

Action by the Commission December 19, 1975, by Notice of Proposed Rule-making. Commissioners Wiley (Chairman), Lee, Reid, Hooks, Quello, Washburn and Robinson.

SET

(*continued from page 16*)

plete the appropriate form(s) so your group's efforts will be recorded.

Regardless of "your bag" in SET activities, make sure you read the ARPSC section. ECs and SECs should study the AREC section; RMs, PAMs, Net Managers and NTS Officials should peruse the NTS section. When you come right down to it, though, **everyone** should read the whole bulletin. SET and Emergency communications are a **team effort** which require complete cooperation between AREC and NTS; be familiar with the whole picture.

Send your SET stories and pictures to **Worldradio** and ARRL.

EDITOR'S LOG

Armond Noble, W6AJY
Editor, Worldradio

1976 is here. We celebrate the 200th anniversary of this country.

What does this nation offer to its citizens? It gives them far more economic, political and personal freedom than can be found anywhere else on this earth.

And, sadly, so many just take it for granted. The right of self-determination, paid for at the most precious price, is shrugged off by about half the persons who could vote.

Often, the best "Americans" are immigrants from other countries who have something to compare this system to. To them the USA is the shining light of the world.

There is something else that seems, for a great number, to be taken for granted and that is our Amateur Radio. If one would stop and think about the great gifts it can offer one we should be willing to go to any lengths to preserve and protect it.

Certainly there are many wonderful things about Amateur Radio. But there are many avenues in which we are deficient. Yes, quite a few do run the licensing classes, but it is clearly not enough.

In many avenues we just don't seem to bring the gusto to our activities that other groups do. For example: Two amateurs interested in our space efforts said they would match, up to $25,000, the donations of amateurs toward our OSCARs.

What they were looking for was donations that would average ten cents (that's right, a dime) per licensed amateur. It didn't happen. The drive fell short. Could it be that all of hamdom combined didn't have the enthusiasm (and when you put your money where your mouth is, that's enthusiasm) for the project that will be the future of Amateur Radio?

One of the amateurs who parted with several thousand dollars was Bill Eitel, W6UF, who was recently elected as vice-director of the ARRL Pacific Division

To digress . . . when we ran the article about Eitel in **Worldradio** some thought it was political. It was not meant to be such. It was a news story. It was a news story because very seldom does one of such great stature run for ARRL office.

Many people who made a great deal of money in radio could have put something back in when they retired by lending their expertise to the governing body of our only national organization. But they did not.

There are those among us whose very name (such as Eitel) can "open doors" both in this country and overseas. But, can you name anyone else of that nature who has taken upon such burdens at his retirement?

Many top scientists got their start because of Amateur Radio. How many of them "put something back in"? How many of today's engineers and technicians owe their position to the fact that some years ago a kindly amateur in the neighborhood took some time and helped them in their youth? What are they putting back in? How are they repaying the debt? Or do they just take it all for granted. Compare our good fortune to so many nations that either do not allow Amateur Radio or severely restrict it. Look at the vast numbers of countries in which an education is only available to the children of the wealthy. We have so much to be thankful for. But we just seem to take it for granted.

Yes, a good number of amateurs get involved in the public service projects. But, it is only a fraction of the potential. I can tell you that another radio service is daily increasing their visibility in public service projects.

In many areas of the country the other radio service is being used because the civic, social and charitable groups cannot get amateurs to participate in the projects. We are getting kicked so badly that we should have a collective nosebleed.

Due to previous editorials readers have been sending me publications of other organizations that they belong to. Also, I've been getting some on my own. During the evenings I've been looking over the publications of civic, fraternal, veterans, service, etc., organizations. How I wish the spirit they show was in Amateur Radio.

In discussing this matter with concerned amateurs we've wondered if it was because in most other activities one has to leave his home and go somewhere else to "do it". Does that make it more "special" than something that you have quick access to right in your home?

Look at the enthusiams of the "little theater" groups. With zest they volunteer to take tickets, paint the sets, make the costumes, etc.

At the same time . . . so many of the radio club bulletins we see are pleading with their members to get involved in club activities.

Recently we read about a group in Texas that is dedicated to the restoration of World War II aircraft. They have found many planes, restored them, built hangars, put on shows. They speak about keeping alive the memory of those who flew in defense of this country. The average donations so far by this group's members come to over $1,000 per member.

What if we could generate such enthusiasm for Amateur Radio?

For example, what if in any town 100 amateurs would pledge to give a dollar a week to their local club. We could have our own buildings, mobile vans for emergency use, etc. Amateur Radio could (and should) really shine in the local communities.

If we could "get our act together" and do it right there would never be any worry about losing frequencies.

We've got to get Amateur Radio exhibits into every county

[*please turn to page 31*]

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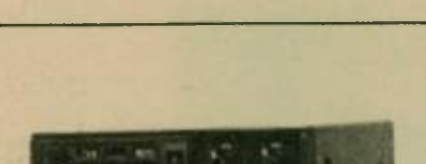

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Latest info — you can now have that 2M vfo to use w/ your modified IC-22A.

When you buy the DV-21 for $389, the factory modified IC-22A would sell for $279.

Buy both at M-TRON and we don't charge extra for the modification of the IC-22A. You pay $638 for the pair.
Save $30 at M-TRON.

Want to have your IC-22 or 22A factory modified?

M-TRON will handle it for you — total cost $49.95.

Want to do it yourself? Field modification kit $19.95.

15 kHz kits for IC-230 now available —

select a kit that suits your needs

146.415 to 147.585 $29.95
146.355 to 147.645 $34.95

146.025 to 146.655
AND
147.345 to 147.975 $34.95

Get ICOM at M-TRON

New goodies for the New Year

24-hr. 12" diameter clock
sweep second hand, 110v - $24.

The Ham Key
twin lever keyer paddle $29.95

M-TRON USED SPECIALS

Ten Tec Triton II 200w SSB tcvr	449.00
Swan 250 6 meter SSB tcvr	350.00
Swan 117XC AC/PS must go with 250	75.00
Hammarlund HQ180A w/S200 spkr	295.00
Ameco VFO 621	39.95
ETO Alpha 77 Eimac 8877 Final	1495.00
Hallicrafters HT-32 cw/ssb xmtr	199.00
Collins KWM-2 w/516F2 AC/PS	695.00
Drake SW4A SWL rcvr	249.00
Drake RV4C remote VFO	79.95
Swam 260 Cyqnet	299.00
Swan 270B SSB txc	319.00
Robot SSTV monitor & camera w/lens	395.00
Hallicrafters SX-111 rcvr	134.95

B & W coax switches

2 position	16.50
5 position wall mount	18.95
6 position surface mount	18.95
TR switch, 117v ac or dc	16.50

Baluns

HyGain	15.95
KE	9.95

Cushcraft antennas

AR2	2-meter	3db	16.50
AR220	220MHz	3db	16.50
AR450	450 MHz	3db	16.50
ARX2	2-meter	6db	26.50
ARX220	220 MHz	6db	26.50
ARX450	450 MHz	6db	26.50
11-element	2-meter beam		23.95
11-element	450 beam		19.95

Touchtone pads— clean —14.95

Omega-T noise bridges

1-100 MHz	29.95
1-300 MHz	39.95

ARRL Handbooks

1976 edition	6.00

Callbooks

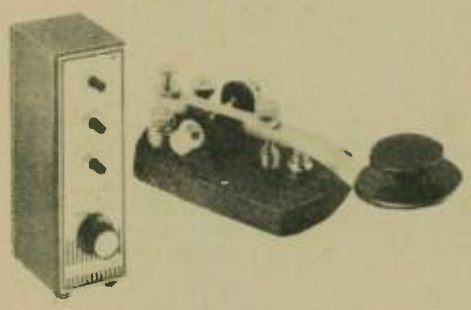
US 1976	13.95
DX 1976	12.95

Ameco Amateur Theory Course — 4.95

Ameco Commercial Theory Course — 5.95

Magnum 6 speech processor

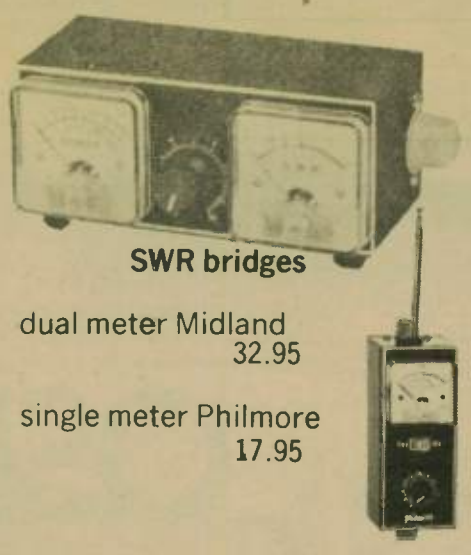
Heathkit SB-100	SB-401
SB-101	HW-100
SB-400	HW-101
Specify model	was 150.00 SALE 110.00
Swan 500 series	was 180.00 SALE 138.00
Yaesu FTDX series	was 150.00 SALE 114.00



Viking double knob key	8.20
Viking Hybrid phone patch	36.50

CDE rotators

CD-44	was 109.95 SALE 89.95
Ham II	was 159.95 SALE 129.95
Curtis EK-430 Keyer	124.95
IK-440 Instructokeyer	224.95



SWR bridges

dual meter Midland	32.95
single meter Philmore	17.95

Wattmeters/SWR bridges

Drake W4	3-30 MHz	62.00
Drake WV4	20-200 MHz	74.00
HyGain 421B	3-30 MHz	69.95
Antenna Specialists VHF 25/50 watt	scales	69.95
Dentron	2-30 MHz dual meters	99.00

Kriket speaker

External speaker specially designed for communications use
14.95

Larsen

5/8 wave 2-meter or 450 mobile antenna	6db 28.35
with gutter clip or magnet mount	35.00

NPC regulated power supplies

12 volt	4 amp	reg. 49.00 SALE 39.95
12 volt	8 amp	reg. 72.00 SALE 59.95

Ameco FET signal preamps

PLF for receivers	44.00
PT for transceivers	66.00

Superex headphones

good	5.95
better	15.35
best	28.50

KLM 2-meter FM amps

2 watts in, 12 watts out	44.00
2 watts in, 70 watts out	149.00
10 watts in, 40 watts out	79.00

ICOM

IC-22A 2-meter FM	249.00
DV-21 VFO	389.00
IC-230 2-meter FM	489.00

Atlas

210X	649.00
matching transformer	44.00
noise blanker	48.00
AC modular ps	95.00
AC consul ps	129.00

Newtronics

75-meter resonator	16.95
40-meter resonator	15.95
20-meter resonator	12.75
15-meter resonator	11.75
10-meter resonator	10.75
fold-over mast	15.95
HD bumper mount	24.95

Low pass filters (2 kw pep)

Drake TV-1000	18.75
Drake TV-3300	19.75
Viking 20-001	19.50
B & W 425	32.50

Drake

R4C receiver	549.00
T4XC transmitter	580.00
TR22C 2-meter rig	229.00
TR4C transceiver	599.00
MS4 speaker	24.95
SPR4 SW receiver	599.00
AC4 power supply	120.00
filters for R4C .250	
.500	50.00
1.500	ea.
noise blanker for R4C	65.00
noise blanker for TR4C	100.00

Dentron tuners (2kw pep)

80-10 long wire	59.50
160m long wire	59.50
160-10 dipole beam or long wire	119.50
160m transverter	199.00

Shure microphones

hand-held HiZ ceramic	14.10
hand-held HiZ controlled magnetic	16.80
hand-held miniature HiZ controlled magnetic	25.00

Turner

desk mike HiZ	28.50

KE Electronics

squeeze keyer	49.95
dual memory keyers	99.00
80-40 trap dipole w/balun	35.00
40m traps	21.25

HyGain

TH3MK3	199.95
TH6DXX	239.95
14AVQ/WB	67.00
18AVT/WB	97.00
TH3JR	144.50

M-TRON

2811 Telegraph Ave. - Oakland, CA 94609
Doug Murray, W6HVN (415) 763-6262

DX DIGEST

Gary Stilwell, W6NJU

1975 is now behind us and we can look forward to bigger and better DXing in 1976. As we look back on 1975 we probably all hope that we've gone through the bottom of the sunspot cycle and with an upturn, things have to get better.

Actually 1975 for DXers doesn't seem to be as bad a year as we might have feared. DX continued at a high rate and we continued to add countries to the DXCC list. As bad as we thought it might have been, we were still able to snag Mount Athos, had a high rate of DXpeditions and seemed to get a lot of fellows out for DX contests. The DX banquet circuit continued to attract a great number of DXers and we seemed to have available many more DX presentations.

We wish you all bigger and better DXing in 1976.

A sad note

It is with sad regret that we report the passing of Jack Clement, W6NTR. Jack, an avid DXer for many years, had held memberships in the Southern California DX Club and the San Fernando Valley DX Club.

YASME Foundation

The YASME Foundation recently held a Board Meeting and elected new officers. The officers now are: Don Wallace, W6AM, President; Danny Weil, Vice President; Bob Vallio, W6RGG, Secretary/Treasurer. Directors will be: Tom Taormina, WA5LES; Charles Epps, W6OAT; Lloyd Colvin, W6KG; Iris Colvin, W6DOD; Nobuyasu Itoh, JA1KSO; Martin Laine, OH2BH, Dave Duff, VK2EO; Dick Spenceley, KV4AA, and Dick McKercher, WØMLY.

QSL Information

CE9AT to CE2MZ	JW4FG to LA4FG
CR9AK to W6WX	JY8RS to WA7ZLC
CT1BY to WA3HUP	KC4AAC to K7ODK
CT2BB to W1EP	KD5OME to W5UK
CT2BP to WA6GKJ	KL7IAG to K1KDP
EA5AX to K1WPS	N8DMI to K8IPS
EL5G to WAØSYJ	OX5BW to WB8ONA
FGØMM to WA1JKJ	PJ8DZ to KØSGJ
FMØBUY to KØSGJ	PJ9FTX to W1FTX
FR7ZL/G to F8US	PJ9EF to WA3UTA
FWØLP to WB5ERR	P29BS to W3HNK
FY7AX to W3HNK	TU2GA to K9KXA
HV3SJ to DJ3HJ	7X2AA to WB4BQX

Glorioso

Guy P. de la Rhodiere, FR7ZL, was to be active from Glorioso until 20 January 1976. Guy will be using the approximate schedule of being on 21.240 or 28.550 prior to 1200Z and on 14.220 after 1200Z.

Niue

Don Shearer, WØJRN, now has the ZK2AP logs in hand through November 19th. Arch, ZK2AP, continues active, mostly on 40 meter CW. Kevin, ZK2AO, has been active around 14.202 starting around 0700Z.

DX Advisory Committee

ARRL President Harry Dannals, W2TUK, has announced appointments to the DX Advisory Committee effective 1 January, 1976. Louis Muhleisen Jr, K5FVA, is the new Committee Chairman for 1976. Continuing membership on the Committee will be Layfield Lamb, W3BWZ; Wm. Christian, K4IKR; Gary Stilwell, W6NJU; Allen Clark, W7YTN; Dr. J.R. Sheller, WA8ZDF; and Robert Wood, KØHUD, along with Louis Muhleisen Jr, K5FVA. New appointments to the Committee are George Hitz Jr., W1DAL; Hayden Evans, K2BZT; Charles Morgan, W9KNI; and Harold Parsons, VE3QA. Director Larry Price, W4DQD, will continue as Board liaison and Bob White, W1CW, will continue as Headquarters liaison. Chairman Muhleisen has appointed Gary Stilwell, W6NJU, to continue as Secretary for the Committee. Items for Committee consideration or comments can be sent to the individual members or direct to Bob White and ARRL Headquarters.

A couple of years ago the Board of Directors of the ARRL requested the DX Advisory Committee to study Rule 9 of the DXCC Rules and make a recommendation to the Board. The Committee has been unable to reach any consensus as to any change, so come the January 1976 Board meeting there probably will be no recommendation for change to Rule 9 presented to the Board.

A subcommittee has been looking at various Rule 9 alternatives during the past year. The ideas discussed include changing the Rule to include continental limits, to include contacts within the same country, to change the 150 mile limitation to 500 miles, and a proposal that if a member changes his legal residence within the same country he may request transfer of his DXCC credits to his new call.

As there probably will be no recommendation for change in Rule 9 by the DX Advisory Committee you should let your Division Director know your thoughts on the matter.

Here and There

San Hutson, K5QHS, is looking for a Baja Nuevo and Serrana Bank effort next spring with April 1976 as the target date.

Wayne Warden, W9MR, has attained DXCC CW Award Number 17.

Robert Rippel, WA4HHG, has a bumper sticker that you can obtain by sending Bob $1. The sticker reads: Ham Radio Is Real Radio — Avoid Worthless Imitations.

The Canadian postal strike has ended so you can now get mail to and from Canada.

ZD8TM plans to activate ZD7 on 160 meters in January and CEØAE has 160 meter plans if he can manage delivery of a 160 meter transmitter.

New officers of the Southern California DX Club for the first half of 1976 are John Cashen, W6KNC, President; Cleyon Yowell, WB6EHT, Vice President; Joe Westheimer, WB6KUC, Secretary; Martin Woll, WB6VZI, Treasurer; and Wayne Spring, W6IRD, as Director.

The DX contest minded have a full schedule of events coming up:

January 10-11 — YU 80-meter CW Contest

January 23-25 — *CQ* 160-meter CW Contest

January 31-Feb. 1 — French CW Contest

February 7-8 — ARRL DX Phone Contest

February 21-22 — ARRL DX CW Contest

February 28-29 — French Phone Contest

March 6-7 — ARRL DX Phone Contest

March 20-21 — ARRL DX CW Contest

March 27-28 — *CQ* WPX SSB Contest

Gus Browning, W4BPD, is preparing for his final DXpedition which is scheduled to begin this coming March.

Most Wanted Countries

We previously printed a list of most wanted countries as conducted by Geoff Watts. We suggested that that list may have been slanted toward the European DXers.

Now comes a poll basically representing the United States DXer. The poll received some 300 responses and was performed by Art Westneat Jr, W1AM; Howard Naugle, K1TZQ, and the Southeastern New England DX Association and has appeared in various extensive forms in the *West Coast DX Bulletin*. The list which encompasses all DXers is as follows:

1. YI Iraq
2. VP8 South Sandwich
3. FO8 Clipperton
4. 3Y Bouvet
5. 8Z Saudi/Iraq Neutral Zone
6. BY China
7. VS9K Kamaran
8. XZ Burma
9. VS9A South Yemen
10. HKØ Malpelo
11. FR7/G Glorioso
12. VKØHeard Island
13. ZA Albania
14. 60 Somalia
15. TN Congo Republic
16. VU Laccadives
17. 1S Spratly
18. SY Mount Athos
19. TT Chad
20. FB8W Crozet

The above list represents responses from those who have been active for many years and W1AM asked the question as to how valid the list would be for today's DXer and how could the list be made more relevant. Research showed that 5A, Libya had been very active up to 6 June, 1967 when activity ceased, so the old timers would have Libya and the newcomers would not have Libya. W1AM made up a list of those not having Libya and came up with a most needed list post 6 June 1967 which then looks like this:

1. 5A Libya
2. 60 Somalia
3. FO8C Clipperton
4. YI Iraq
5. VP8 South Sandwich
6. VS9A South Yemen
7. 3Y Bouvet
8. BY China
9. VS9K Kamaran
10. XZ Burma
11. 8Z Saudi/Iraq Neutral Zone
12. VKØ Heard Island
13. HKØ Malpelo
14. FR7/G Glorioso
15. ZA Albania
16. TN Congo Republic
17. VP8 South Georgia
18. FB8W Crozet
19. VU Laccadives

SAN DIEGO DX CLUB

DX - PEDITION

FO8AT

CLIPPERTON

ISLAND

20. Geyser Reef

Whichever list you use, there appears to be plenty of opportunity for those interested in a DXpedition to find a place. Add to this list the possibilities of finding your own island administered by a separate entity of a government and DX activity should never have a lull.

No matter how you look at the list, FO8C, Clipperton Island comes out third on both lists. Looking back through the files we find for you to drool over a QSL card from Clipperton which was activated in 1958 by the San Diego DX Club.

Many thanks for information to the *Southern California DX Bulletin, Geoff Watts Newsheet, QSL Managers Directory* and the *West Coast DX Bulletin.*

NCDXA Bicentennial Award

The National Capitol DX Association will award to any Amateur Radio Station in the world this Award under the following condition:

Two-way contact with ten (10) different NCDXA members, using the special Bicentennial Call Signs (AA, AB, AC, AD) during the period January 1, 1976 0500Z to January 1, 1977 0500Z.

Details:

(1) 1.8 MHz to 30 MHz, any mode may be used

(2) Only the Basic Award will be issued

(3) No QSLs required, just send log information

(4) Fees: DX Station Free, USA/VE $.50 or 4 IRCs

(5) Send to:
NCDXA Awards Manager
W4QAW
10013 Coach Road
Vienna, VA 22180 USA

NCDXA Members

AA — 3AFQ, 3HRV, 3KSQ, 3MBQ, 3NGS, 3NHG, 3VQP, 4HPF, 4KJR

AB — 2EXK

AC — 2GHK, 3AFM, 3AZD, 3BQV. 3BWZ, 3COR, 3CRE, 3DBT, 3EZT, 3KA, 3NL, 3QW, 3RX, 3SW, 3ZNH, 3ZSR, 4DPS, 4IDG, 4KFC, 4QAW, 4UMF, 4WSF, 4WWG, 9SZR

AD — 3CHP, 3EH, 3ZAW, 4BEO, 4CFB, 4DXO, 4EBY, 4EKJ, 4GKD, 4KQB, 4WVT

Notice

JOHN KANODE, W4WSF
Manager
W4/K4 ARRL QSL Bureau

Notice to all WA4, WB4 or WN4 stations and to anyone who has held a WA4, WB4, WN4 call since 1968:

The new ARRL WA4, WB4, WN4 QSL Bureau, which has moved to Sterling, VA, needs your help.

They have over 300,000 unclaimed DX QSLs and very few envelopes. They would like to get them to the owners. Several have over 900 QSLs alone and many have complete DXCC awaiting them.

Even if you have sent envelopes to the WA4, WB4, WN4 ARRL QSL Bureau in the past five years, please send more. The envelopes should go to:

WA4, WB4, WN4 ARRL QSL Bureau, Sterling Park Amateur Radio Club, P O Box 599, Sterling Park, VA 22170.

Important — please use 13¢ stamps.

Get your QSLs

BILL WELSH, W6DDB

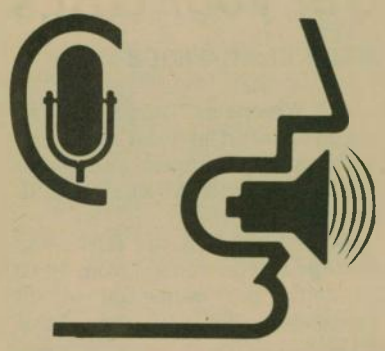
All American Amateurs are urged to send at least one self-addressed stamped envelope (SASE) to their ARRL DX QSL Bureau.

Remember that the first-class postage rate increased from 10 to 13 cents per ounce as of 28 December 1975. If you have SASEs on file in your Bureau, just send 3¢ stamps to be attached. Remember that it is no longer legal to send postage-due mail.

California amateurs should mail envelopes and/or stamps to the Lockheed Amateur Radio Club, 2814 Empire, Burbank, CA 91504. If you are unfamiliar with DX QSL Bureau operation, send an SASE and request a copy of the free data sheet.

Message found in a bottle washed ashore: "I am marooned on a tropical island with no taxes, pollution or traffic. Eat your heart out."

Send info on those for whom you manage QSLs to:
Worldradio
2120 - 28th Street
Sacramento
CA 95818



REPEATERS

FM in England

As we understand, there is only one (and it's experimentally-licensed) 2-meter repeater now operating in England. A spoof story about a proposed new repeater was included in the Lowe Electronics advertisement printed in the July issue of *Radio Communications*. If you're a Monte Python fan you'll find a strange resemblance; here 'tis.

FM News

The proposed Matlock repeater will be in operation by the end of nineteen canteen. Operating on channel R6 7/8, it will incorporate new advanced features designed to ensure that no one will be able to use it. The access tone will be a coded pair of audio frequencies which will be changed according to the phase of the moon. Information on the code of the day will be published in the "Exchange and Mart" too late to be of any use.

Since it is likely that holders of Class B licenses will wish to use the repeater it is suggested that the use of Morse code for repeater replies is downright unfriendly. These will, therefore, be replaced by pre-recorded voice replies as follows:

When accessed the repeater will send back the immortal words "Hello Sailor" and then promptly close down to avoid arrest.

The repeater will from time to time interrogate users with the message, "What is your deviation?", to which the user should reply, "Black leather and high heels", or whatever may be his particular thing.

Once accessed the repeater will allow 3½ seconds of usable time after which it will announce, "Time gentlemen please", and close down with peals of maniac laughter.

Overall control of the equipment will be entrusted to comrade Ivan Offalsignal, a senior member of the KGB. Anyone found guilty of over-deviation will be expelled from his FM group and be sentenced to five years hard labour in the salt mines.

—Newsletter, Geo. Ladd Pioneer RC

Orlando, land of repeaters

C. STROMBERG, W4WLX, WR4AEL

It is often heard that Orlando has more repeaters than any other community in the state.

It is said that Orlando has too many repeaters. The truth is that Orlando probably does have a lot of repeaters. It probably has more repeaters per capita amateur population than any other large community in the USA.

Orlando is proud of its repeater population. All its repeaters have high use. It is common for several of the repeaters to be used continuously for hours.

Each repeater serves a separate purpose. Different interest groups congregrate to different repeaters. Coverage facilities and sound of each repeater is sufficiently different to make the use of each a new experience.

Following is the current listing of Orlando repeaters:

WR4AEL - 146.22/82 - Eatonville - 300' - carrier access - Wide area transient repeater - Trustee: W4WLX.

WR4AEQ - 147.78/18 - Pine Hills - 200' - Touch Tone access - General Use - Autopatch - Trustee: W4JYF.

WR4AER — 147.72/12 — Downtown Howard Johnson — 160' - Carrier access - General use - aeronautical repeater - Daytona linkup - Trustee: WB4OOS - Autopatch.

WR4AFO - 146.16/76 - Hillcrest Apt. - 200' carrier access - autopatch - Club repeater - Trustee: W4TOD.

WR4AGW - 146.04/64 - FTU 8 125' - Carrier access - autopatch-campus repeater - Trustee: K4PWC.

WR4AJC - 146.34/94 - Winter Garden - 400' - carrier access - Wide area transient repeater - Trustee: WB4CGW.

WR4AJM - 146.19/79 - Sheraton Twin Towers - 210' - Touch Tone access - general use and wide area linkup. Trustee: WB4ZUR.

WR4AJP - 444.5/449.5 - North Orlando - 80' open access - General use - Trustee: WB4QDN.

WR4AJR - 147.69/09 - South Orlando - 150' - Closed access - DX'ers repeater - Trustee: WB4VVF.

WR4AJS 146.10/70 - Winter Park - 200' - Open Access - General Use - autopatch - trustee: W4RUO.

WR4AKC 146.13/73 and 444.1/449.1 - 100' - S.W. Orlando - General use. Trustee: W4MPQ.

This makes a total of 11 licenses and 12 repeaters. Not bad for a small town of 100K population. A majority (9 of 11) are available for use 24 hours a day. Orlando strikes "horror" in out-of-town repeater circles because of our number of repeaters. We don't mean to offend anyone. We believe instead that we are setting an example for other areas in the proper use and discipline of repeaters.

—Listening Post, Orlando ARC

●

VHF (*continued from page 34*)

John Klimek, W2KHQ; and Bill Roth, WA2PVV, on a joint effort for a six meter EME system. They anticipate using an array of 16 four el beams in a box 60 by 60 feet! That ought to make some noise. Not much has been done on six for EME since I took down the rhombic and Don Roberts, W7FN, took down his array of 8 four el beams.

Paul Wyse, OA8V, whom many are acquainted with from low band activities, has been severely bitten by the OSCAR bug. Paul has some pretty substantial problems to contend with. He's operating just 8 degrees South and in the midst of the hot, humid jungle on the East side of the Andes. Actually, he's along a tributary of the Amazon about 500' above sea level.

Paul's VHF gear consists of a Johson 6N2 and a varacter tripler for 432. Converters feeding a Drake SPR-4 are fed from wood boom Yagis. He is apparently the only station active on OSCAR 6 & 7, plus 160 as well, from Peru. Maybe that's was as his November letter indicated he had blown the 5894 again. Just 500 V at 150 mA shouldn't ruin it, but does seem to go in that climate.

Paul's looking for some assistance in some better gear for the VHF bands, especially for getting on OSCAR. He has a Ten-Tec and this should be a good starting point from which to run transverters up to VHF. His comment about the satellite bug is humorous: . . . "thing about this bug that bit me is that it's itching worse than the mosquitoes and chiggers down here do." Paul can be reached via a long mail line via Casilla 2492, Lima 100, Peru.

Since the January sweepstakes has just past, remember to get your logs in. We need the activity count. Speaking of contests, we are presently working with several other amateurs on both sides of the border for a possible June '76 VHF contest effort from XE2 land. This is still quite tentative but things are looking good. We expect good capability on all bands up to 2304 with luck. And there are possibilities we may have a week of EME work before, plus some OSCAR work as well. This will be a joint effort with the primary intent to assist the XE2 gang in getting in on the real VHF fun. So get geared up for this June.

One last item, Danny Berg, WA7BJU, got his Advanced after much diligent work. He'll now be down at the low end of 2 with the rest of the gang. Oregon should soon be a regular QSO. Congrats to Dan.

I can still be reached at 4519 Narragansett Ave., San Diego, CA 92107, (714) 222-8381. How about some news, ideas, comments and the like. I need your help to make this column do what you want.

●

We're looking for articles about what we call "the amateur radio experience."

Write about what you have done. Share your experiences. Open up some new horizons for someone else.

You Win Again!

You've been bugging us to modify the **IC-22A** for use with the **DV-21**, and we did it! We're giving you what you've been wanting in a new field modification package simple enough for anyone experienced in kit building or home brewing. You can now use our unique scanning digital synthesizer to complete your ICOM two meter station.

The **DV-21** is the LED readout synthesizer that operates in 5KHz steps over the 146-148MHz FM section of the two meter band, and even scans frequencies being used. Completely separate selection of the transmit or receive is as simple as touching the keys. When you transmit, the bright, easy to read LED's display your TX frequency. Release the mic switch, and the receive frequency is displayed. There are even two programable memories for your favorite simplex frequencies. You won't believe the features and versatility the **DV-21** will add to your station.

We'll send you everything you need to make your modification: wire, coax cable, an extension/adapter cable with seven to nine pin capacity, and the active components. If you have neither the time nor the inclination to make your own connections, we will modify your radio for you at a nominal fee of $30.00 with prepaid return.

To get your mod kit send $10.00 to ICOM EAST, Inc. or ICOM WEST, Inc., and you will receive yours by return mail, prepaid.

Distributed by:

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Mt. Clemens, MI 48043

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New York, NY 10012

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Burghardt Amateur Electronics
P.O. Box 73
Watertown, SD 57201

C & A Electronics
2529 E Carson Street
Carson, CA 90745

CDS Electronics and Hobbies
Baseview Shopping Center
Emerado, ND 58228

CFP Enterprises
766 Ridge Road
Lansing, NY 14882

Cal's Radio
3rd at Davis Street
Tipton, OK 73570

Conley Radio Supply
101 S 31st St.
Billings, MT 59101

CW Electronic Sales Co.
1401 Blake Street
Denver, CO 80202

Craig Radio
29 Sherburne Ave
Portsmouth, NH 03801

Derrick Electronics
W. Kenosha Hickary
Broken Arrow, OK 74018

Douglas Electronics
118 S Staples
Corpus Christi TX 78404

Down East Ham Shack
57 Main Street
Lewiston, ME 04240

Electric City Radio
2315 10th Ave S
Great Falls, MT 59401

Electronic Exchange
136 N Main
Souderton, PA 18964

Electronic Center
2929 N Haskell
Dallas, TX 75204

Electronic Distributors
1960 Peck St
Muskegon, MI 49441

Erickson Communications
4135 Main St
Skokie, IL 60076

Electronics International Service
11305 Elkin
Wheaton, Maryland 20902

Evans Radio Co.
Route 3A Bow Junction
Concord, N H. 03301

Gary Radio
8199 Clairemont Mesa
San Diego, CA 92111

GDS Electronics
Box 691 Route 11
Spokane, WA 99208

G & I Sales
3863 Steilacoom Blvd SW
Tacoma, WA 98499

Harrison Radio
20 Smith St.
Farmingdale, L.I. NY 11735

HCJ Electronics
8214 East Spreague
Spokane, WA 99206

Ham Radio Outlet
999 Howard Street
Burlingame, CA 94010

Ham Radio Center
8342 Olive Street
St Louis, MO 63132

Hamtronics
4033 Brownsville Rd
Trevose, PA 10947

Help Radio
1055 Liberty Street
Jacksonville, FL 32206

Henry Radio
211 N. Main
Butler, MO 64730

Henry Radio
11240 W Olympic Blvd
Los Angeles, CA 90064

Henry Radio
931 N Euclid St
Anaheim, CA 92801

Hoosier Electronics
430 B Meadows Shopping Center
Terre Haute, IN 47802

Howard Radio
4235 N First Street
Abilene, TX 79603

Island Electronics
1111 McCully St
Honolulu, HI 96814

Jimmy's Hamshack
1217 Winterview Drive
Jackson, MS 39211

J & H Radio Supply
232 N. 53nd. St.
Odessa, TX 79762

Juge Electronics
11181 Harry Hines
Dallas, TX 75229

Juge Electronics
3850 S. Freeway
Ft. Worth, TX 76112

Kass Electronics
2502 Township Road
Drexel Hill, PA 19026

Kensco Sales
46 Pearl St
Quincy, MA 02169

Klaus Radio
8400 N Pioneer Pkwy
Peoria, IL 61614

Lasater Electronics
4617 Paxton
Tampa, FL 33611

L & M Communications
5912 Smith
Hamburg, NY 14075

LEC Electronics
1820 Highway 50 West
Pueblo, CO 81008

MJ Communications
Highway 67 N
N Little Rock, AR 72116

Marcus Communications
134 E. Center St.
Manchester, CT 06040

Manzano Enterprises
Box 198 Star Route
Tijeras, NM 87059

Masters Communications
7025 N 58th Drive
Glendale, AZ 85031

M-Tron
2811 Telegraph Road
Oakland, CA 94609

Mellers Photo Labs, Inc
1929 E. Bennett
Springfield, MO 65804

Metro Audio, Inc.
706 Oak Street
Bakersfield, CA 93304

Morton Electronics
2113 N 26th St
Boise, ID 83702

Northern Virginia Communication
729 N. Edison
Arlington, VA 22203

Oregon Ham Sales
409 W First Ave
Albany, OR 97321

Pair Electronics
107 Trade St
Greenville, NC 27834

Portland Radio Supply
1234 SW Stark
Portland, OR 97205

Precision Radio Co
7208 Prospect
Kansas City, MO 64132

Progress Electronics
825 Commerce St
Longview, WA 98632

Quement Electronics
1000 S Bascom Ave
San Jose, CA 95128

Radio Pro Shop
Ben-Aire Shopping Ctr.
Butler, PA 16001

Radio Parts, Inc
1331 Prytania St
New Orleans, LA 70130

Radio Store, Inc.
2104 S.W. 59th St.
Oklahoma City, OK 73119

Roland Radio Company
5923 31st Ave.
Tulsa, OK 74112

Ross Distributing Co
112 S First West
Preston, ID 83263

Rule Communications
512 Grand Ave
Laramie, WY 82070

Selectronics
2204 Del Paso Blvd
Sacramento, CA 95825

Sere-Rose
1465 Wells Station
Memphis, TN 38108

Sequoia Stereo
773 8th St
Arcata, CA 95521

Sequoia Stereo
410 F Street
Eureka, CA 95501

Sichel Equipment Co
245 E Harris
So. San Francisco, CA 94080

Bob Smith Electronics
1226 Ninth Ave. North
Ft. Dodge, Iowa 50501

Spectronics, Inc.
1009 Garfield
Oak Park, IL 60304

Srepco
314 Leo Street
Dayton, OH 45404

Teletronics
4175 San Felipe Road
San Jose, CA 95121

Texas Technical Products
16015 White Fawn Drive
San Antonio, TX 78228

Trimble Electronics
2911 Amy Lane
Tyler, TX 75701

Tucker Electronics
1717 South Jupiter Rd
Garland, TX 75040

Tuft's Radio
386 Main St.
Medford, MA 02155

United Electronics
328 Third Ave East
Twin Falls, ID 83301

Utah FM Sales
1365 East 5360 South
Salt Lake City, UT 84117

Vegas Radio
1074 N Rancho
Las Vegas, NV 89101

Vickers Electronics
506 E Main Street
Durham NC 27701

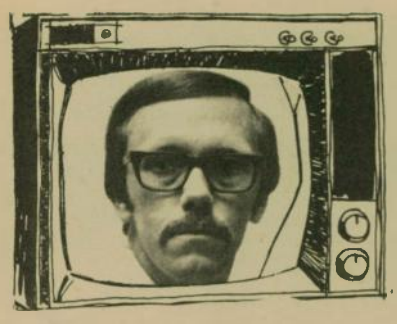
Waco Communications
401 W. Loop 340
Waco, TX 76710

Webster Radio
2602 E Ashlan
Fresno, CA 93726

Westcom Engineering
831 Grand Ave
San Marcos, CA 92069

Williams Radio Sales
123 Grandin Court
Danville, VA 24541

Yorks Radio
Court & Main
Houlton, ME 04730



SSTV

Dave Ingram, K4TWJ

1976 looking good

New Year's greetings! I trust this issue finds you planning some very outstanding new projects for the coming year. Not only is 1976 the U.S. Bicentennial but it's also a major election year. Previous records indicate that presidential elections usually rejuvenate our nation's economy so the outlook is appearing somewhat brighter.

1976 is also looking very good for technical innovations in Slow Scan TV. Several Slow Scanners like Bob Stone, W3EFG; Don Miller, W9NTP; George Steber, WB9LVI; and Bob Suding, WØLMD, are working on a form of sampledot scan for VHF transmission. This system, which employs some very exotic circuits, has approximately 15 kHz bandwidth and produces some high resolution pictures. First reports indicate some tremendous results so we may hear more about this in the near future. I also understand this same SSTV group is also working on a microprocessor type scan converter. This approach to SSTV could very possibly be the way of future advancements.

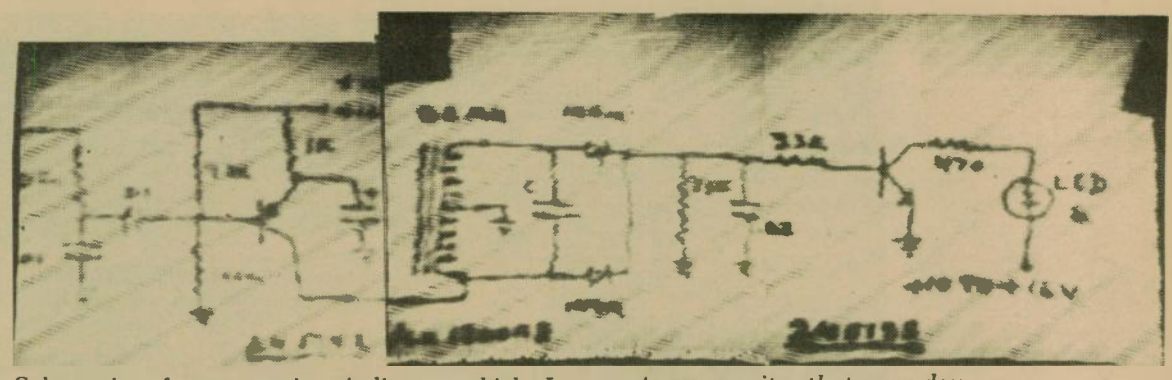
I personally think the forthcoming W9NTP Color Slow Scan converter will be a big hit during 1976. Dr. Don Miller is presently adding all kinds of integration into this unit and substantially reducing memory requirements. This color converter started off using twelve 16K memory boards. Now Don has produced good color pictures while using only six or seven of the 16K memory boards. Color SSTV with this setup (which was primarily developed by W9NTP) bears a striking resemblance to our present Fast Scan Color System. Likewise, it is totally compatible with our existing black and white Slow Scan system. A subcarrier is inserted at 500 Hz and modulated in quadature (90 degrees out of phase) by color information while the regular 1200 to 2300 Hz SSTV signal carries the luminance or black and white Slow Scan. This arrangement allows conventional black and white monitors to display SSTV pictures as usual.

Simply described, color reception is accomplished by quadature detection of the "y" and "Q" color Slow Scan information while using the luminance Slow Scan for "y" information. The resulting composite (with proper encoders) then drives a UHF oscillator which connects to the antenna terminals of a conventional color tv set. Imagine Color Slow Scan on your 21 inch home tv — it's fantastic.

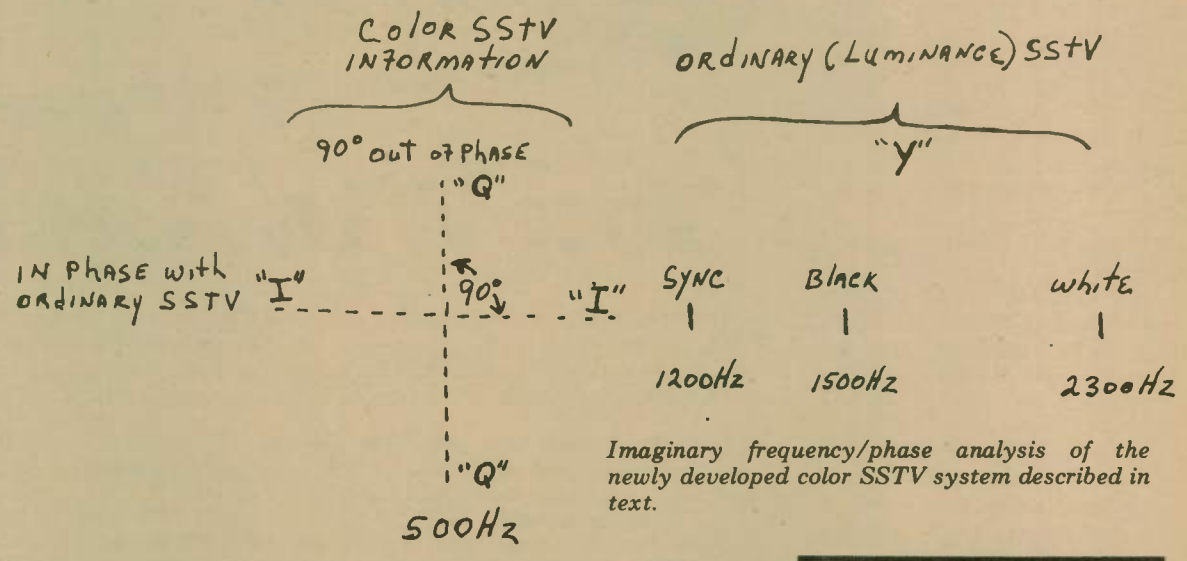
One of my most sincere desires for 1976 is that some truly useful applications of Slow Scan TV will be realized. Our mode has definitely reached the plateau of being highly advanced technically: we can digitally convert scanning rates, exchange real time color pictures, produce 3-D and motion SSTV. I'm just bewildered to think the only application of some new breakthrough like motion Slow Scan is watching someone's hand change ID slides. What do I mean by useful applications of SSTV? How about exchanging schematics via Slow Scan. Sometimes it takes a week or more to get schematics from busy designers via mail. On-the-air exchanges, however, allow you to acquire and build a circuit within a few hours. Exact parts values, etc. can be described on SSB while Slow Scan illustrates wiring and parts location.

One unique use of SSTV is demonstrated fairly often by Bob Schloeman, WA7MOV. Bob receives weather satellite pictures from our observation satellites like NOAA-2, ATS-3, etc. Then he photographs and retransmits the pictures on SSTV — usually during the Saturday Net sessions on 14230 kHz. Cloud cover pictures are interesting and useful. After one becomes familiar with fronts and cloud movements, reasonably accurate weather calculations are possible.

Another interesting application of SSTV could be showing non-mechanical minded viewers how to increase automobile gas mileage by disconnecting two barrels on four barrel carburetor equipped autos. This "two minute" modification involves removing a linkage rod on the carburetor's outer side. The procedure is simple after viewing a sample carburetor illustration. Additionally, certain Slow Scanners might establish a schedule for bringing guest speakers/illustrators into later sessions of the Saturday SSTV net. Topics could range from autos to ladies' hair styles. Useful applications of SSTV are limited only by one's imagination!



Schematic of sync tuning indicator which I received via SSTV. I built this unit and added it to my monitor that same day.



Imaginary frequency/phase analysis of the newly developed color SSTV system described in text.

6th SSTV Contest Announcement

One of this year's first big attractions in SSTV should be the worldwide contest during February 4 and 5. *CQ Elettronica* **Worldradio News**, and *73 Magazine* are jointly sponsoring this year's contest so it is destined to be the best yet. There will be three prizes awarded to the world winners and three prizes awarded to the Top U.S. Contenders. I will tally U.S. scores as usual then forward logs and results to Franco, I1LCF, for the world tally. U.S. winners will also be eligible for world awards. Franco and I have been considering some rules changes (see Rule 3) which will permit a more congenial contest. Due to slow mail deliveries we are still finalizing plans so remember to check next month's column and/or the Saturday SSTV net during late January for any possible last minute changes. Good luck to you all and 73,
Dave, K4TWJ

6th Worldwide SSTV Contest

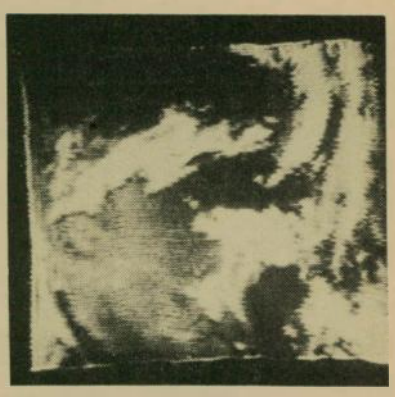
The Italian magazine *CQ Elettronica*, the American *73 Magazine* and **Worldradio News** have pleasure in announcing the 6th Worldwide Slow Scan Television Contest. The purpose of this Contest is to promote increased interest in the SSTV mode of operation as used by Radio Amateurs.

Rules

1. Period of Contest
   Part 1 15.00 — 22.00 GMT on 4 February 1976
   Part 2 07.00 — 14.00 GMT on 8 February 1976
2. Bands
   All authorized frequencies within the 3.5 — 7.0 — 14.0 — 21.0 — 28.0 MHz bands, and via OSCAR
3. Messages
   Messages will consist of: Exchange of pictures which include a) the call sign of trans-

(*please turn to page 32*)

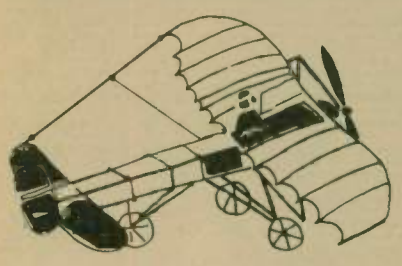
This slow scan picture of Penny Stilwell proves that a beautiful face is always popular in video circles.



Weather satellite picture received via SSTV from WA7MOV [1630 GMT - 7 November 1975]. Pure white areas indicate heavy clouds, gray areas indicate partially cloudy zones and black areas indicate clear skies [satellite camera views earth]. The picture's left side is US west coast, with Washington state in the upper left and Baja in lower left. Upper Mexico is near bottom center and US east coast is on picture's right side. The Great Lakes area is clear, a storm front covers New England, clear near Indiana area [near pix center], partly cloudy over Nevada/Utah area, clear over part of Texas and stormy in Carribean area [extreme right bottom]. This "cloud cover" picture is a view of Earth from several hundred miles up. Fascinating isn't it?

AERONAUTICAL MOBILE

Vern Weiss, WA9VLK



RED-HOT SCREAMING LEAD

Some time ago I was visiting another city and, bored by the endless recurrence of stop lights, I chose to turn on the AM car radio. I rarely do this, but this time I felt it would save whatever braincells left in my head had survived the trauma of stop-and-go driving. (Stop lights were an important catalyst, if I recall correctly, in my deciding to get a flying license.)

After settling down to the back-beat of what had to be the most inane song ever recorded (something about a phone call to somebody's ma asking her to aid in the reconciliation of a broken love affair), the news sprang from the cone of my eight-ohm oval.

Apparently that day a policeman or policemen were shot in a shootout attended by: 1) the cops, and 2) the bad guys. Instead of simply stating the fact that a shooting occurred and two policemen were in critical condition with bullet wounds, Bruce W. Bigvoice of Insta-metro-action-central news gave it his best: "The headlines . . . Capitol City Cops cut down by a stream of red-hot screaming lead . . ."

Tsk tsk tsk.

Once again the public's minds are bent, torn, bashed and sensationalized to death. Bruce W. Bigvoice has passed judgment. He wasn't there. His only contact with the incident is a police scanner and a telephone. But, he has passed judgment.

Heaven forbid a plane ever C-R-A-S-H when Brucie pounds his $115-a-week-before-taxes judge's gavel nine hours a day, six days a week, holidays, nights and weekends.

Typically, a plane crash of any kind, injuries or not, damage or not, would require a bare minimum of, "The headlines . . . Winged machine with (soft) man, (loud) WOMEN and (even louder) **CHILD** aboard hurled to the ground in a fiery ball of speed . . ."

What I am getting at is this. Think of the last time your local newspaper or radio or TV station ran a feature on the benefits of CB radio. You probably hollered (and with good reason). You told those dingbats at the paper or station how stupid they were and that you were an amateur and that you had to take an examination and those CBers break all the laws and run leenyers and Barry Goldwater is an amateur. You told them all of this.

Likewise, as pilots, we should attempt to clear up the multitude of half-truths and wives' tales about aviation.

I don't know about your local newspaper, but the one here feels that it is their duty to recap EACH plane incident . . . INCIDENT! . . . whenever a new one occurs. Last time they dug up each airplane incident from 1968. Think of the lengthy story this would make if they were as fair with automobile crashes. And, of course, media people have this thing about flight plans. I actually am starting to believe that I can fly an airplane without fuel so long as I have a flight plan. It is the first questioned asked by reporters of the FAA or NTSB when there's a crash, "uh, did he have a flight plan?" "No." Gasp!

The thing to do is listen and read and when the news reporters are awarded with a plane crash story like a tiger in his cage being thrown a slab of raw meat, analyze the story. Think to yourself, "If I were learning to fly again would I want my wife to hear this story?" If not, call the originators and express yourself. If this doesn't work, try the General Manager. In most cases you will find the facility eager and interested to not only correct any wrong information or implications, but in many cases their interest will go beyond to that of a student pilot asking the voice of experience. This has got to be done. The public knows too much about wings falling off and (gulp) stalling-out of the sky.

Happy One-Year Anniversary

Anniversary wishes go out this month to the FCC who has had the Unicom frequency spectrum reassignment in the works for one year without action. A year has passed since the deadline for comments on the matter and once again we wait.

The new frequency assignments would be as follows:

122.7 Unicom — primary non-tower airports
122.725 Unicom — private use airports, future use
122.75 Unicom — private use airports & air to air
122.775 Unicom — future use
122.8 Unicom — primary non-tower airports
122.825 Unicom — future use
122.85 Multicom (wha?) — future use
122.875 Multicom — future use
122.9 Multicom — primary
122.925 Multicom — environmental (this plan covers it all)
122.95 Unicom — primary, tower airports
122.975 Unicom — high altitude
123.0 Unicom — primary, non-tower airports
123.025 Unicom — future use
123.050 Unicom — heliports
123.075 Unicom — heliports, future use

Note, however, that provisions in this plan have not been made for aviation "smokey-reports."

Unfortunately the mailbag this month remained limp on the floor. Send in your pictures as well as your aero activities. If you get a new license or rating, let us know. If you lose a license or rating, don't tell anyone.

Due to the mass confusion about IFR and what it really is, next month we are going to begin the IFR PRIMER. The feature will explain simply in a number of parts what IFR is and give you an idea of what you have to do, to do it. So tune in next month.

Send your goodies to me at 533 South Lincoln Avenue, Kankakee, Illinois 60901 (right off the 001 degree radial of IKK), or the WA9VLK NDB on 80 meters sporadically throughout the day.

Until our next meeting, with New Year's in our hearts, keep your wings level, nose on course and fuel in your tank.

73, Vern.

Editorial

from page 23

fair, put our emergency communications vans into every parade, etc. We've got to stop hiding our light.

Then we have to somehow get the professionals to give of their time in Amateur Radio (as others do in other fields).

The amateurs in the press should assist their clubs in preparing news releases for the local newspapers. And what we'd like to see is those in advertising help design brochures about Amateur Radio for distribution. Right now there is no really good flyer about Amateur Radio that can be inexpensively handed out to those interested, government agencies, etc.

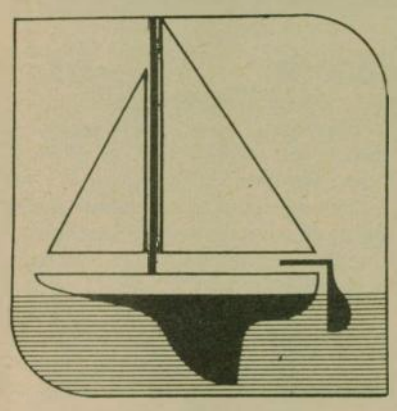
Reading this issue are two that we know about who work for the top agencies, BBD&O and Dancer, Fitzerald and Sample. C'mon fellows, how bout really putting something back in for all the pleasure it has given you.

If you come up with something, **Worldradio** will stand for the cost of the original typesetting and picture work.

As we embark on this new year shouldn't one of our resolutions be to do something more for Amateur Radio? Isn't it just like this very country . . . something far too precious to be just taken for granted?

When you look at those who have "paid the dues" so we can enjoy Amateur Radio (or this country), can one be personally content to just go along for a free ride?

MARITIME MOBILE



Bill Yost, WA6PIU

As Christmas fades and the New Year is upon us, perhaps it is a good time to reminisce the past and project the future of the MM column.

When I started writing for WRN as MM editor my mind was full of speculation on a great volume of mail relating to all kinds of MM adventure and application. And, thus, I launched the first rendition over two years ago with my initiation to Amateur Radio — an SOS on a hurricane swept ocean. I tried to portray the feeling of fear in the wake of death and the sweet awareness of life that is regiven. My acquired love for the potential of the Amateur Service was kindled at that time, an experience to which I'm indebted. In the concluding paragraph I made an appeal for contributions.

And so it went, month after month. Covering the MM activity took me through a realm of experience from small boats to large freighters and tankers. The information portrayed, however, came largely from my own resources (somewhat lacking). Not to say that I didn't receive some excellent articles. I am grateful for such contributions.

They say that a great writer can create a story with little more than a productive imagination. Unfortunately, I don't fall into this category. Writing has always been an effort for me as it is for most people. One definitely needs an incentive along with some ability — oh well. For some freelancers this drive may be in the form of money. It's nice to see some cash at the end of an effort even if it only partially covers your time. Contrary to the belief of many, to my knowledge, none of the WRN writers are paid for their contributions. Perhaps this point should be emphasized since it may have hindered some of you in sending in contributions to the column.

"Why should I send in a written article to be used by another author for monetary gain," may be a pending thought. I was actually approached at SAROC last year on the value of such articles. Please, we are all in this equally! Real incentive can only come from the satisfaction of conveying information of mutual interest. My effort is strictly voluntary and hopefully appreciated, even if by a minority of amateurs.

In reading back over these prior paragraphs, it really appears that I'm complaining — giving the readers hell for not sending in articles. Actually, response probably compares favorably to other columns on a percentage basis. It's just that MM is a very select phase of Amateur Radio with a relatively small following.

Thus with empty files and fast fading resources of my own, I am left with some heavy decisions. To be compelled or obligated to produce some scripture each month merely to fill some columns is definitely undesirable. It's not fair to the readers or to the editor with a concern for quality.

While MM may not have the fans of DX or VHF, it is unique in the fact that it's the only one in print — a WRN first and unique entity. All the other publications cover the standards which all say about the same thing. Thus I hate to see this column die as it does have a place in Amateur Radio as a unique mode.

My time, however, is undergoing increasing demand, a situation which I find totally undesirable. I've always tried to maintain a certain amount of flexibility to allow a percentage for totally unproductive activity which could be enjoyed accordingly. Recently it hasn't been that way. For example, during the day I play the role of a Marine Biologist presently running computer simulations of California's salmon population. In the evenings I teach marine navigation through Adult Education, act as editor for the "Atlas Advocator," write the Sacramento Amateur Radio Club announcement, study aviation (yes, I'm learning to fly), play with a few electronic projects, and occasionally turn on the radio for a quick QSO. I am also a dealer for "Wind Surfers" (surfboards with a sail) in the Sacramento area. All this with two cars that never work simultaneously, a house with grass that keeps growing and a wife that thinks I'm disorganized (I really am) leaves my mind in a state of conflicting anxiety.

Weekends aren't much better. Sailing and yacht club activities dominate, with flying and friends soaking up the change in the gaps. There has been an unrealistic urge to set sail for that mystical island in the South Sea in quest of a new slate. Only the wealth of payments has bonded me to society. In the final tack, I am stuck in a situation where I end up writing the column the night before the final, final deadline.

(presses rumbling in the background). Hurried with all kinds of other things on my mind, I end up scratching together a quick column, oftentimes strictly "off the wall." As a consequence, quality suffers.

What I'm leading up to are some agonizing reappraisals of the present format. In weighing the alternatives, we have the following: (1) find a new MM editor with more resources and time, (2) eliminate the column, (3) reduce the frequency of appearance to a bi- or tri-monthly feature, (4) reduce the frequency to a time, space and interest situation. I would personally favor the last plan since it would eliminate deadlines and allow more time in organization. When material is received it is printed.

In expressing a desire to keep up the rally on a semi-retirement basis, I certainly don't want to discourage any qualified volunteers from taking the helm. It's a great experience that I would gladly relinquish.

Any comments you might have regarding these heavy passages would be appreciated. The last two years have been both rewarding and interesting. I thank all of you who have given support to its effort. With QSB, 73, Bill Yost, WA6PIU/R2, Burnt out but not extinguished.

News from ICOM

The Inoue Communication Equipment Corporation (ICOM), a recognized industry leader in Amateur Radio, VHF and UHF FM technology, has introduced a unique Marine VHF radiotelephone unit to the Marine industry.

ICOM has incorporated over a decade of solid state VHF manufacturing and design experience into the development of the ICOM M25 radiotelephone, which has been designed exclusively for Marine applications.

The ICOM M25 incorporates an unusual number of user oriented features including 25 channel capacity with 10 factory installed channels. The ICOM M25 has been specifically engineered to withstand the harsh marine salt fog environment through an extensive environmental shielding system of "O ring" seals throughout the unit, including all switches as well as covers for the unit, in addition to a weather protected speaker. The unit includes such unique features as an auto recall system that automatically returns the unit to channel 16 after usage in other channels, in addition to an auto dimmer system that lowers the intensity of the panel light at night to eliminate glare in the cabin.

ICOM has continued its level of excellency in receiver design engineering resulting in outstanding receiver sensitivity using dual gate MOS FET RF amplifier and a high gain IF section. Exceptional receiver selectivity is accomplished through a five section helical resonator in addition to a crystal mechanical filter virtually eliminating intermod and adjacent channel interference.

The ICOM M25 is distributed in the Eastern U.S. by:

ICOM EAST, INC.
3331 Towerwood
Suite 307
Dallas, Texas 75234
Telex #73-0901
(214) 620-2780

In the Western U.S. by:

ICOM WEST, INC.
13256 Northrup Way
Suite 3
Bellevue, Washington 98005
Telex #32-0051
(206) 747-9020

SSTV

(*continued from page 30*)

mitting station; b) report (RST); c) serial number.

The serial number must start at 001 and is increased by one for each successive contact during the period of the Contest and the serial number is irrespective of the Band(s) used. Friendly QSOs between contesting SSTV-ers in all countries will be permitted this year. However, an exchange of SSTV pictures containing the previously stated information is necessary for valid QSO credit.

4. Exchange Points and Multiplier

A) Contact score 1 point per contact on the 3.5, 7.0, 14.0 21.0 MHz Bands. 4 points per contact on the 28.0 MHz Band and 15 points via OSCAR.

B) A multiplier of 5 points for each Continent (max 30 points) and 2 points for each Country (ARRL List) worked can be utilized on each band. In addition to the ARRL List will be considered as separate Countries the W call areas W0 to W9 and VE Call areas from VO to VE7.

The same Continents and Country is only valid once on each Band. The same station can only be worked once on each Band (max 5 contacts) during Contest period.

5. Scoring

Total exchange points multiplied by the multiplier total.

6. Handicap

Winners of precedent Contest: less 10% of the total final score.

7. Sections

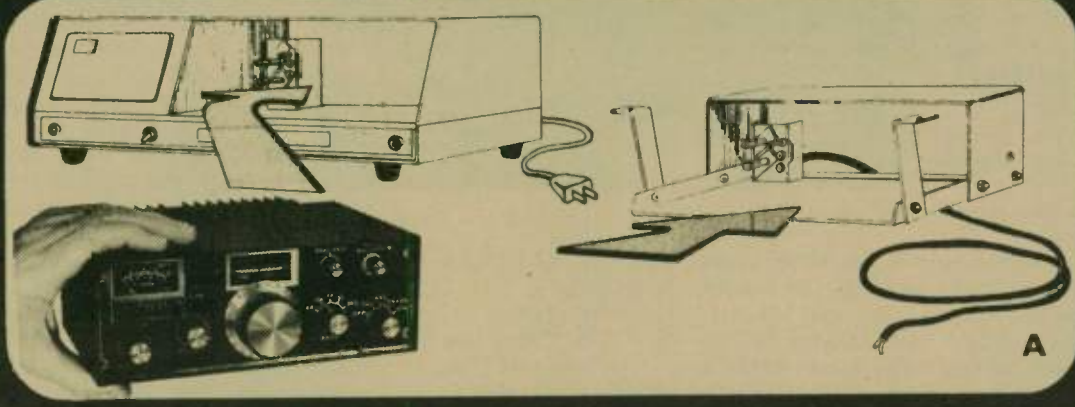
A) Entrants transmitting and receiving video.

B) Entrants receiving video only. For this purpose the same general rules apply and the same station heard is valid once only on each Band.

A separate results table will be made for each of these two classes of entry.

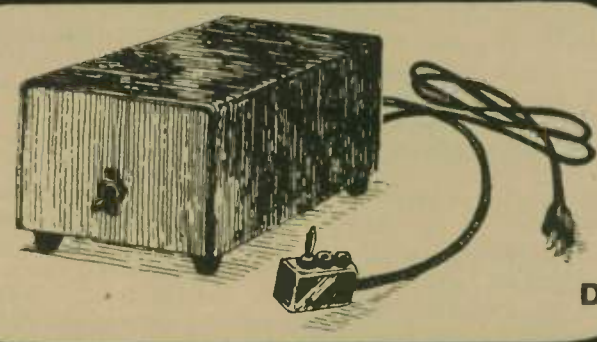
(*please turn to page 45*)

ATLAS' SUCCESS HAS MANY FACETS

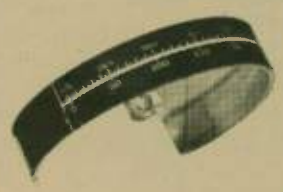


A

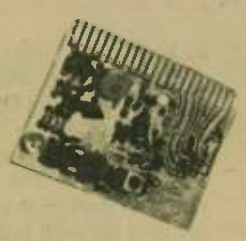
C



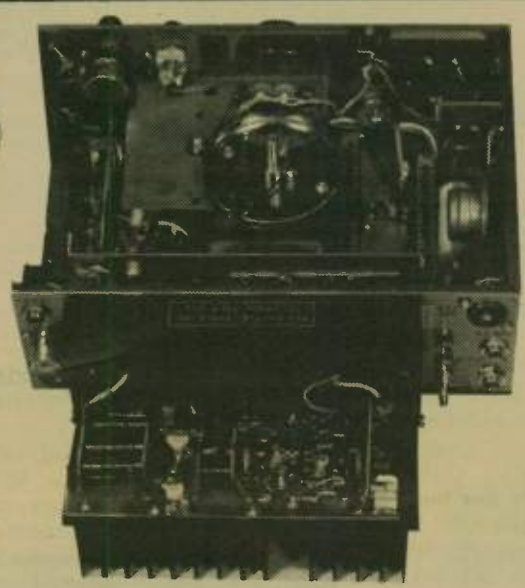
D



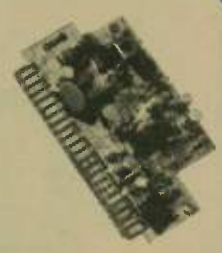
TUNING DIAL DRUM



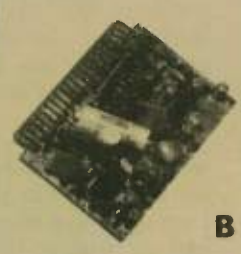
R.F. MODULE



SWIVEL MOUNTED POWER AMPLIFIER MODULE

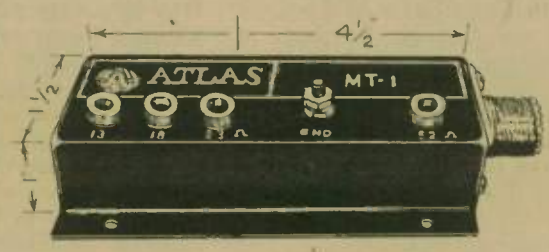


I.F. MODULE



A.F. MODULE

B



E

ONE OF THESE IS MODULAR DESIGN:

A The unique modular design of Atlas radio equipment offers many advantages. The specially designed rear connectors in the Plug-in Mobile Mount and AC Console enable you to go from fixed operation to mobile in seconds by simply sliding your Atlas transceiver into the appropriate mount. All necessary connections to power input, antenna, and mic jack are made immediately. In the AC Console, the internal speaker is automatically disconnected and the front facing speaker in the console is turned on. This is the simplest way we know of to go from fixed to mobile operation or vice versa.

B The RF, IF, and AF circuits are all on easily accessible plug-in boards, so that service on your Atlas transceiver, when required, is quick, easy and inexpensive.

C Adding the Atlas Model 10x Crystal Oscillator provides substantially extended frequency coverage for MARS operation. Frequency coverage with the 10x is: 1700-3000 kHz (Model 215x only), 3000-5200 kHz, 5800-10,000 kHz, 13,900-14,900 kHz, 20,600-21,600 kHz, 27,500-30,000 kHz (Model 210x only). The 10x has vernier frequency control, and plugs into the back of the Atlas transceiver with cable provided.

D The Atlas Portable AC Supply (Model 200-PS) is ideal to bring along on those vacations or business trips when you want to operate from your motel room or cabin. It weighs just 7 lbs., measures 5½"x3½"x6½".

E Improve your mobile antenna efficiency substantially by installing the Atlas MT-1 Mocile Antenna Matching Transformer. This device was especially designed to provide a better impedance match between mobile antennas and the new solid state transceivers, including of course, the Atlas solid state transceivers. Has broad band design, 1.8-30 MHz, 500 watt power rating, with choice of 4 impedance taps for clearly matching the base impedance to 52 ohms.

Don't let the small size (9½"x3½"x9½") and light weight (7 lbs.) of the Atlas 210x and 215x fool you. There is no other transceiver on the market with as many outstanding features. It is completely solid state design, totally broadband requiring no transmitter tuning or loading controls, provides 200 watts P.E.P. input, and offers the ultimate in sensitivity, selectivity, and overload immunity.

Model 210x or 215x	**$649.**
AC Console 110/220V	**$139.**
Portable AC Supply 110/220V	**$ 95.**
Plug-in Mobile Mount	**$ 44.**
10x Osc. less crystals	**$ 55.**
MT-1	**$ 24.**

For complete details see your Atlas dealer, or drop us a card and we'll mail you a brochure with dealer list.

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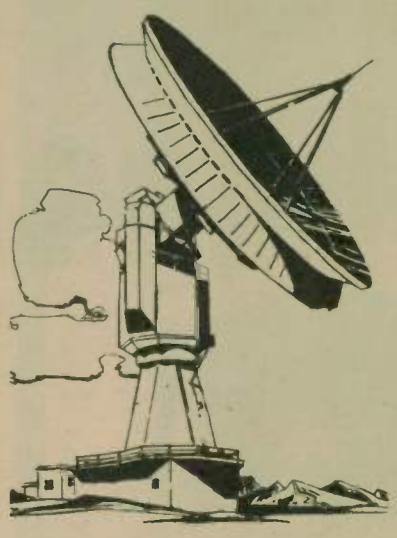
VHF-UHF

Lou Anciaux, WB6NMT



Trust by the time you all read this you'll have gotten over the holiday period and survived the New Year's hangover. I wish all of you readers my warmest for '76. I'll start off the year with the bad news first, and there is some good news later on.

OSCAR 7 is being killed!

According to a letter sent out by Dick Zwirko, K1HTV, dated 28 Nov. 75, OSCAR 7 is being over drained to the point that Mode D, the re-charge mode, is being encountered with some greater frequency of occurence than is desirable. Too much ERP is the blame. Mode B users are to blame for this excessive discharge, according to Dick.

The problem is that, as too much input power is received by the satellite it tries to respond with like output power. Consequently, the drain from the battery and solar cells is draining the battery too much for the cells to re-charge. As the voltage drops from the discharging battery, an auto protect circuit shuts things down when 12.1 volts is reached.

Needless to say, all users of both 6 & 7 are well aware of the cross-moding, etc. which occurs when too much power hits the bird — almost like the FMer who gets his jollies from yelling "Capture" over the top of other repeater users. Like so often the problem with 6, many of the 7B users don't have adequate 2-meter receivers. Consequently, only hearing themselves rather weak, they just have to increase their power.

Dick points to the 432 EME guys as being one of the (apparently) bigger offenders. He claims " . . . many EME stations on 432 (some with inferior 2M receiving systems) are not using 100 watts but their KW finals, and not a single low-gain or no-gain antenna but instead are using multi-Yagi arrays which produce brutally loud signals . . .". This may be true in some instances, but I wonder how many of the "many" EME stations are really involved.

Using 100 W ERP is just what it says. It was abundantly obvious on 6 that most of the users didn't understand how to calculate ERP, and I guess are a significant number using 7B as well. Running 100 W output doesn't mean you are running the same amount ERP. You know what your antenna gain is supposed to be and, likewise, the cable loss. Combining all three will give the ERP quite readily.

To assist those who need it, let's consider that you are using, as many are, a KLM Multi-2000 rig on 2 meters and an amp, say an SCS 2M10-70L running 79½ W out when you scream at the DX station. The antenna on 2 is a 3-3l Yagi at 7.3 dB gain and you have 57 ft of coax at 1.3 dB loss. Change the output power to dBW, which is 19.0 dBW, and add the ant gain and subtract cable loss to get 25 dBW. This 25 dBW is equivalent to 316 W. This is the ERP (Effective Radiated Power).

It has been very obvious from its launch that 7B was a super loud signal on two. Anyone who listened and found signals super weak should have realized his receiver was poor. Similarly, those who found the signals to be super loud, should have realized as well that his transmitter was too loud.

I'd like to point out, mainly in partial defense of those who do run too high power when first on especially, that in some degree AMSAT is to blame. In an issue of the *AMSAT Newsletter*, just prior to 7's launch, either September or October I believe, an article appeared on how to make the KW final needed to work 7B. Unless one is going to run the KW into a wire buried in the ground there is no reason for using such power levels. And this is what they are now saying after two years.

I took exception to that article and for the first few months after 7 went up I ran just 5 W output into 70 ft RG-9 to a Cush-Craft collinear which just makes 10 dB gain over a dipole. In about six weeks I worked sufficient numbers to reach the 1000 point mark, which included only W, VE & KH6. I believe also that several of these columns have had some words about using QRP via the OSCARs.

Turn down the goo fellas; keep the bird alive a while longer. Try some of the QRP via 7B. It's going to blow both yours and the other fellows when you tell him you're just running 100 milliwatts. Ask Stan Savage, W6ABN, about low power. We've had several QSOs with both of us running well under 1 W output.

Some of the many EME stations on 432 had their first successful QSOs in November. The first Italian 432 EME, possibly first EME at all from Italy took place 21 November when Sandro Montagni, I5MSH, worked J. Ottens, PAØSSB. The second QSO took place within a scant ten minutes following the first. Shortly thereafter SJW Freeman, G3LQR, was worked. Sven Nordin, SM5LE was only partially worked about an hour later. GMT date now 22nd.

Station of Paul Wyse, OA8V.

The next day Tom McMullen, W1SL, was copied by the I's, but must have Tom's turn in the barrel as he heard nil. After Tom's sked, Al Katz, K2UQH, managed a QSO and thus the first USA/Italian EME QSO on 432. The WA6LET gang was worked a little later also. Not a bad showing for their first times on.

Also in November, Ben Lowe, K4VOW, had his first EME success working K2UYH, WØYZS & WA6LET. Of course, the WA6LET operation provided a great many with their first EME work. November also saw Jud Snyder, K2CBA, come out of his FM retirement. Using the 28 footer he used when we ran on 220 several years ago, he managed QSOs with WA6LET, WØOQI, WØYZS and K2UYH, if not others.

I've been led to believe Jud also has a 60-foot dish he's putting together. If this be the case, NY will be one of the loudest on the EME bands. Apparently he is also working with John Stevens, WB2BYP;

(please turn to page 28)

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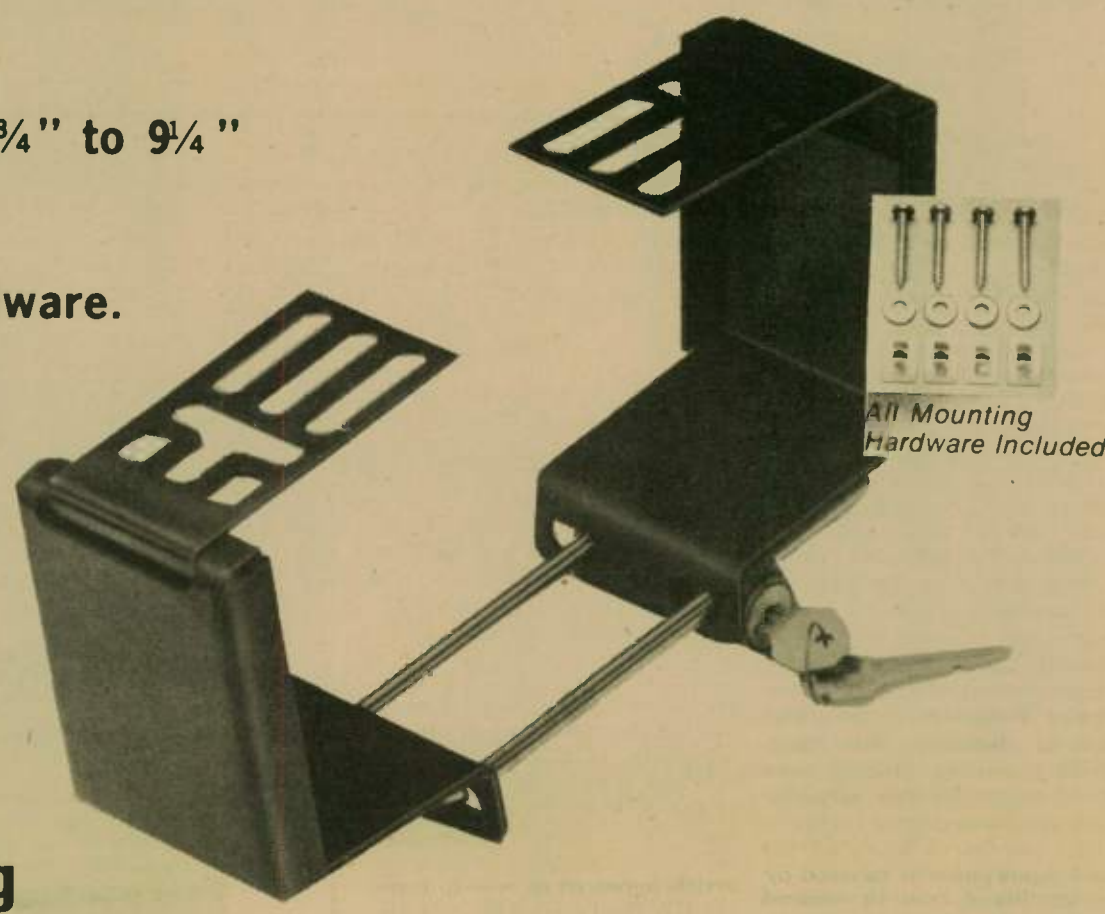

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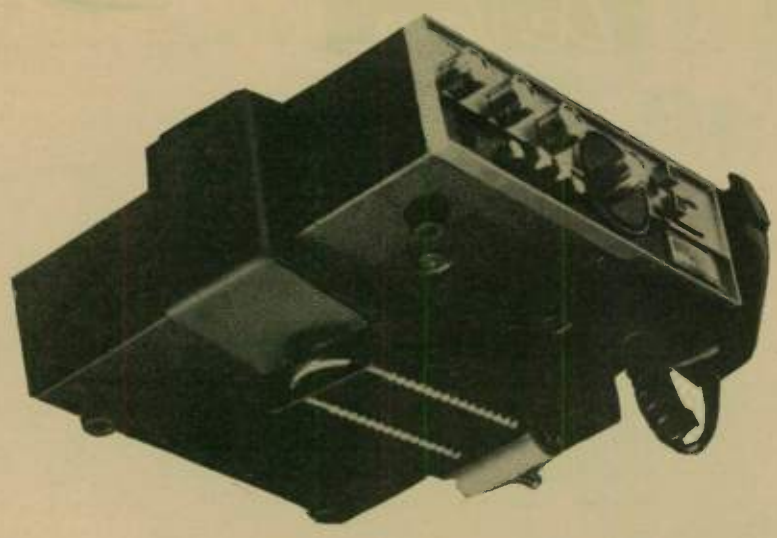

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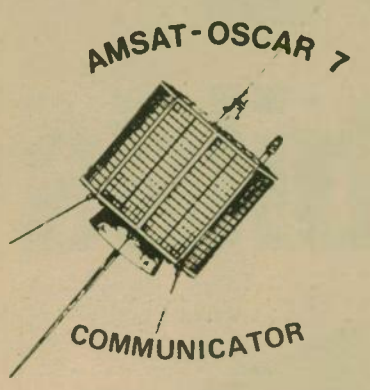
You spent $200, $300 or even $400 to put your VHF rig in your car. Why not spend $15.00 to keep it there.

Support the AMSAT team that brought us OSCAR 6 and 7!



To: AMSAT, P.O. Box 27, Washington, D.C. 20044 WR

From:

Name_____ Call_____

Address_____ City_____ State_____ ZIP_____

Attached is $_____ for _____ years' dues (at $10 per year), and $_____ donation in support of the Amateur Satellite Program. (Approximately half the dues are for subscription to the quarterly AMSAT Newsletter, and Life Membership is available for contributors of over $100).

Contributions above the dues are tax-deductible under Section 170 of the Internal Revenue Code. Thank you for your support!

Since November, 1974 Amateur Radio has had not one, but two long-life OSCAR satellites available for use by the international Amateur Radio community:

- AMSAT-OSCAR 6—Launched October 15, 1972 by NASA piggyback (with NOAA-2, which has long since expired), OSCAR 6 continues to function having tripled its original one-year lifetime goal.
- AMSAT-OSCAR 7—Launched November 15, 1974 by NASA piggyback with NOAA-4, OSCAR 7 exceeds the capability of the first six OSCARs combined.

AMSAT is now developing Phase III spacecraft intended for much higher orbits. AMSAT Phase III promises to be a considerable step forward beyond OSCAR satellites launched to date, making possible reliable commuications over transcontinental distances for hours at a time.

Join AMSAT. Use the tear-out coupon above, or write for further membership information: AMSAT Membership Dept., P.O. Box 27, Washington, D.C. 20044.

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New life for an old friend

Dick Peters, WA1PWF

This article was prompted by the fact that there is an aspect of amateur radio which receives little attention. I'm referring to RTTY, or Radio-Teletype. While the rapid development of repeaters, slow-scan TV, and amateur satellite work has been prominent, RTTY has been pushed aside.

Many who were once loyal advocates have since abandoned this mode and machines sit idle, collecting dust. But like the fabled ugly duckling, RTTY has been silently growing and maturing. Some recent developments include compact solid state terminals, CRT display of messages, portable keyboards, and computer-type memories for storing messages to be sent on command. Some RTTY stations can be compared with sophisticated computer terminals in their reliability and operation. The possibilities are seemingly endless.

Speaking of operation, you don't have to wait and hope for that rare DX QSL card. You've got proof right there in black and white (or blue and yellow, as the case may be). QSOs thus become a permanent record. You can leave the shack or answer the landline during a QSO and come back to read what you might have missed had you been on phone or CW. Even if you're not at home, a calling station can turn on your machine remotely and leave a message for you. It's there for you to read when you return. Message handling and contest logging are a breeze. There is an RTTY art contest now in progress where pictures are created and transmitted for judging. Some very clever and imaginative artwork using only the alphabet and punctuation marks appear line by line. Artistic QSLs can also be sent this way.

There are thousands of active amateurs using RTTY. Some are on 2 meters; there are RTTY repeaters. Others are on the low bands working DX, handling traffic, and improving the state of the art. As with CW, you soon being to recognize the sending fist. You don't have to be a proficient typist either. The hunt and peck method is perfectly acceptable, and you will find that your speed will increase with time.

Give RTTY a try. It's far from being an outmoded mode, and I think you will find it to be one of the more interesting aspects of Amateur Radio.

QRZ

RTTY

DAVE ALTEKRUSE, W6RAW

Radioteletype buffs are among the most enthusiastic groups within Amateur Radio. While interest in other modes seems to come and go, once an operator latches on to RTTY he has usually become a lifelong convert. And yet a relatively small percentage of us even try this mode. Although probably everyone knows what RTTY is, few really understand this unique mode. Here are several questions and answers about radioteletype:

Q: What good is RTTY?

A: There are a number of reasons why amateurs like RTTY. Perhaps part of the reason is simply the fascination of watching a machine almost magically and effortlessly "talking" to you. On RTTY other operators can leave a message on your machine even when you're not home. RTTY offers unique possibilites for experimenting. Many RTTY ops are working with the latest digital circuitry. Several are even using microcomputers in their stations.

Q: Isn't RTTY pretty expensive?

A: Some amateurs have spent a lot of money on RTTY equipment. However, compared to a typical SSB/CW station, RTTY is quite inexpensive, $50 to $100 is a realistic amount to spend to get on RTTY.

Q: How much technical ability is required?

A: There is probably a higher percentage of engineers and technical "geniuses" on RTTY than most other areas, but the average amateur should have little trouble setting up a teletype station.

—*"Smoke Signals" Hayward RC*

•

Bicentennial license plates

THOM GUDDING, K4LHB

On 1 January, 1976, Bicentennial License Plates will be available in Virginia. A silhouette of George Washington in red and blue will appear in the middle of a white reflectorized background. With the commemorative call signs also available to us on the same date, these plates could become a real collector's item.

There are several combinations of Plates and Calls available. They are:

Regular plates with regular call sign.

Regular plates with Bicentennial call sign.

Bicentennial plates with regular call sign.

Bicentennial plates with Bicentennial call sign.

Bicentennial plates will be displayed from 1 January 1976 until 1 January 1981.

There are several forms for this application, depending on what combination you want. The address for obtaining these forms is: Commonwealth of Virginia, Division of Motor Vehicles, P.O.Box 27412, Richmond, Virginia 23269.

Don't forget that call sign plates are obtainable for all calls, except Novice and Ø.

—*Auto-Call*

Redwood Empire Club organizes

Radio amateurs in Mendocino County, CA recently formed the Redwood Empire Radio Amateurs club.

Temporary officers were elected: Bob Nasek, W6PJO, president; Lloyd Carmen, WA6KIM, vice-president; Lawrence von Schritz, WA6WXV, secretary; and Vaughn Jupe, W6JMO, treasurer.

Surplus

(*continued from page 46*)

a standard 4000 or 5000 ohm to voice coil transformer. Output from the receiver is made on pins 1 and 5 of the receiver output plug, or by means of the earphone jacks which are connected in parallel with these pins.

Satisfactory operation is now possible without further modification. Test for proper operation before attempting further modifications. Use caution and observe safety procedures.

Antenna connection

Substituting a coaxial connector for the original binding post antenna terminal will greatly reduce noise pick-up.

Simply remove the original antenna binding post and enlarge the vacant hole to accept a standard coaxial connector.

Antenna tuner

Installation of a variable capacitor in parallel with the ganged 19-plate antenna variable capacitor allows tuning the antenna coil to your particular antenna, resulting in improved sensitivity.

Locate a small (100-uuf) midget variable capacitor to the right of the dial lamp rheostat on the front panel. Connect the stator section of the midget capacitor to the stator section of the receiver antenna capacitor. This increases the over-all capacity of the circuit; to compensate for this increase one or two rotor plates must be removed from the receiver antenna capacitor. With needle nose pliers, and a steady hand, remove one rotor plate at a time, testing for antenna tuning as your proceed.

"S" meter

A 0-150 or higher microammeter is recommended to serve as an "S" meter. Sufficient clearance is available in the upper right front panel. Adjacent to the "S" meter install a 1000 ohm potentiometer and a toggle switch. "S" meter is connected into the circuit by means of two resistors and the 1000 ohm potentiometer via terminals 2 and 6 of the output plug and chassis ground, as indicated in Figure 3.

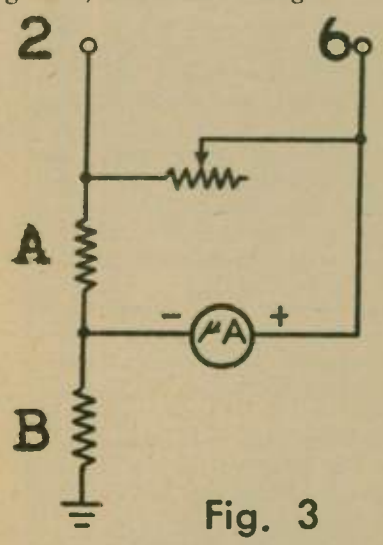


Fig. 3

Value of resistor A should be approximately 500 ohms and value of resistor B should be approximately .15 meg ohm. Decreasing the value of resistor B increases meter swing and, conversely, increasing the value of resistor B decreases the meter swing. Substitute and experiment with the values of resistors A and B to meet the requirements of your particular receiver and meter movement. A switch in the positive leg of the circuit should be provided to disable the "S" meter circuit.

RF and AF gain controls

The AVC-OFF-MVC switch may be replaced with two potentiometers providing independent control of rf gain and af gain.

A .35 meg ohm potentiometer will serve as the af gain control, while the 20,000 ohm section of the original control serves as the rf gain control. Separation of the wiring on the original dual control is apparent upon examination and easily accomplished so we won't go into a wire by wire detail. A toggle switch should be inserted between the 100 ohm resistor (107-3) and chassis ground to function as AVC, on-off switch.

When these modifications have been accomplished the BC-348 leaves little to be desired in the way of an excellent amateur communications receiver.

Further refinements towards optimum performance have been developed such as crystal phase control, converters for expanded frequency range, noise silencer, audio amplifier and increased band-spread, which may be covered in a future column depending upon your response.

We thank the many amateurs from around the country for these suggestions. They are offered for all to benefit.

While space does not permit printing of the complete schematic diagram of the BC-348 a copy is available upon receipt of a SASE by the Colonel.

*9410 Walhampton, Louisville, KY 40222

●

Station appearance

(*continued from page 17*)

they were, and a ship being a dictatorship still, they struggled through the General and Advanced, but when the subject of Extra came up I damn near had a mutiny on my hands. But Glenn Wolfe, K6PF; Frank Schoble, W6LMI; and Jim Moore, W3NJJ, and company stuck to the job."

Bob retired about three years ago and the gear was installed in the den in his home. Antennas come through the attic and down the inside walls. He has also put in a TV and Hi-Fi set-up so that "when I am put in the dog house, which is rather frequently, it's quite comfortable."

Bob holds memberships in the Council of American Master Mariners, Society of Amateur Radio Operators, QCWA, SOWP, OOTC and Phyliss Riblet's MMARC. His awards include DXCC CW, WAC and WAS. His next project is WAZ.

Antennas are TH6DXX for 20, 15 and 10 meters; a vertical for 80 through 10; and dipoles for 80, 40, 20, 15 and 10.

On the topic of operating Bob says, "I am devoted to woodpecker wireless exclusively except for a couple of daily local SSB nets. I operate mostly on 20 meters, and the DX bug has bitten."

We thank Bob very much for allowing us to present his pictures and a very interesting background story.

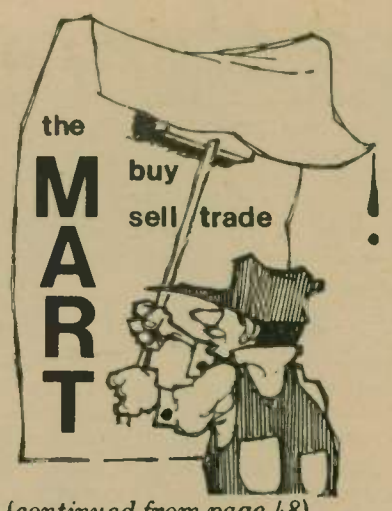
The response to this column has been very favorable. May we run your story and pictures next?

●

Lightning idea

If any of you have severe lightning storms (and who doesn't in Texas?), try guying your antenna with barbed wire. The jagged edge of the barbs will discharge the clouds and air around the antenna. The chance of a hit are then very small. Try it; it really works.

—NØQI, Navy MARS "Transmission Line"



(*continued from page 48*)

Practice code the easy way on 60 minute cassettes. Novice 0-5 wpm, progressive 5-13 wpm, General 13-15 wpm, Extra 20-22 wpm. $3 ea, set of 4—$10. Celebrate Uncle Sam's birthyear. Show a Bicentennial Amateur Radio bumper sign. 75¢ ea, 3/$2. Royal, Box 2174, Sandusky, Ohio 44870.

SMALL TRANSMITTER—35W, portable. CW 40 meters, seven crystals, switched size 4 x 8, built in power supply—$40. Japanese SSB Handbook—$1.00. CQ Mobile Handbook—$1.00. 1972 ARRL Handbook—$1.00. W6BLZ, 528 Colima St., La Jolla, CA 92037.

FOR SALE: Kenwood TS-520 with CW filter $500; KLM Echo II PA10-70BL amplifier $400; RCA CMU-15, with AC supply, on 435 MHz. ATV, Concord Camera all for $150; Telequipment S51B scope $125; K8WOT Wayne Smith, 128 Powers Rd., Bedford, Ohio 44146 (216) 232-5241.

WILD HORSES, ANTELOPE, ELK. Wyoming ranch land. 10 acres—$30 down, $30 month. FREE Maps—Photos — Info. Owner—Mike Gauthier, K6ICS, 9550 Gallatin Road, Downey, CA 90240.

TECH MANUALS for Govt surplus gear, $6.50 each: URM-25D, TS-382D/U, ALR-5, BC-348-JNQ; following manuals $8.50 each: R-388/URR, 51J4, FR-114/U, USM-50; following manuals $10.00 each: SRR-11, 12, 13, USM-32, USM-24, RBA, UPM-45 URR-35. Thousands more available. Send 50¢ (coin) for large list. W3-IHD, 7218 Roanne Drive Washington, DC 20021

Bargains: That's why you are looking through the classifieds. Well, the best bargain in AR is right on page 11 of this issue. You get more news and info here than anywhere else. More for your money w/WR.

Upgrade your ticket! Comprehensive Amateur Radio course provides systematic training for Novice, General, Advanced, Extra class licenses. For sale or trade—course just completed. SASE brings full description. Frank Goodell, WA4GFG, 9405 Westmoreland, Manassas, VA 22110.

Sterling Rock Falls Amateur Radio Society Hamfest, March 7, 1976. New Bigger and Better location—Sterling High School Field House. 1608 4th Ave., Sterling, IL 61081. Tickets $1.50 advance, $2.00 at door. Write Don VanSant, WA9PBS, 1104 5th Avenue, Rock Falls, IL 61071.

AMAZING, new unique, easy method of mastering the Morse Code. Send $5.95 to GENERAL, Dept. 115, Box 137, Northridge, CA 91324

WANTED: Used 1975 US Callbook in good condition. Send me your book and I will send you five dollars. Mark Spiegel, WN2CGO, 88 Adams Drive, Princeton, NJ 08540.

Wanted: HW-17 converted to FM Phillip Hamilton, WB4CMR, 936 15th Street, SE, Hickory, NC 28601.

1 DX Eng. Processor, like new for Collins — $55.00. Triex W51 tower $485.00. WB6DXU, 213-899-6938.

Sell or Trade. 2 KW linear. Professional design workmanship and appearance. SASE for description and price. Will consider unmodified 75A4 high serial number. W7EZY, 2105 West 29th, Eugene, Oregon 97405

Wanted to buy: pre-1930 Wireless gear and Morse keys. Any type? Condition. Write A. Shawsmith, VK4SS, 35 Whynot Street, West End, Brisbane, Queensland 4101, Australia.

WANTED: Gasoline powered 110 V. generator, 1 to 3 kw, to be used at emergency preparedness station here at Worldradio. We will accept your generous donation to a good cause and pay the freight. Or, will trade equal value in advertising, (that should run a lot of classifieds for you—or display), apply against your subscription (for the next 25 years) or gift subscriptions to friends (look like a real sport at Christmas) or combination of the above. Let's make a deal. Write to Worldradio, Dept. Putt-Putt, 2120 28th Street, Sacramento, CA 95818.

WANTED: For employment in ham store: Technician/sales person. Send resume. Conley Radio Supply, 101 S. 31st Street, Billings, Montana 59101.

Coming soon from Advance Communications—600 watt output 2 - meter amplifiers, under $500.00. Drive power 5-20 watts. Write for more information. 1778 Adams Rd., Loveland, OH 45140.

1 W plus AMP w/hvy duty pwr supply. AM mod w/solid state rect. 3-813's. Many XFMRS—chokes—cond. etc. $75 or? W6IKD, 805-927-4607.

FOR SALE: Drake TR4C, RV4C, AC4. One year old. Factory realigned 11/75. Absolutely perfect condition. Looks and performs like new. Package price $595, firm. WA6PUE (Dale) 2955 Euclid Ave., Concord, Calif. 94519. Call: 415-685-7364.

BRIMSTONE 144. For sale in original carton with unused warranty card. Included 142—149.99 MHz in 5 kHz steps. $550. Wanted—75S1/3 dial assembly. W6HDO (916) 934-3504, Route 1, Box 420, Glenn, CA 95943.

Canadian surplus electronic catalogs. Bargains galore. Send $1. ETCO-WR, Box 741, Montreal, Quebec H3C 2V2, Canada.

TRAFFIC

Paul Gagnon, WA6DEI

Simulated Emergency Test

First and foremost this month is the SET. This is the annual nationwide test conducted by the ARRL to test our emergency preparedness. This test is for ALL amateurs. One of the objectives is to have every amateur participate. This includes the experimenter, the DXer, the VHFer, and of course the traffic handler. The test is scheduled for the January 24th weekend but may be conducted within a one month time frame this year to enable the Emergency Coordinator to pick a time when the majority of amateurs in the area will be available.

Emergency preparedness is the name of the game in Amateur Radio for without our public service capabilities the service would quickly die. This is why it is so important for every station, no matter what his favorite aspect of our great avocation is, to participate in this emergency test. Your local Emergency Coordinator undoubtedly has a drill planned by now and will be needing help from you to carry out the drill. Contact him and volunteer your services.

Of course, as is usually the case, the Traffic branch of the Amateur Radio Public Service Corps will be heavily overloaded. Your net manager will need help with extra schedules and outlets into areas that do not normally receive much traffic. So as a traffic handler you have double duty during the test. You have your obligations to the EC and the local drill and also to the net and the section traffic.

The Daytime National Traffic System will handle the majority of the test traffic during the day and the regular NTS evening schedule will also be operating. Make a special effort to help out this year even if you do not normally volunteer. The SET is a time for training and as such there is no better time to get in, make your mistakes and learn.

Q Signals

The December issue of the *Hit and Bounce Report* has an interesting note regarding Q signals. A year or so ago, HBSN manufactured a new Q Signal, namely QPC. QPC? means "Shall I put out some calls for you?" and is used by anyone addressing the NCS. QPC means, "Please put out a few calls for me" and is used by the NCS to another station on the net. The original purpose was to assist the NCS od nays when long skip prevails to pick up statiqns too close to him to hear. It can also be used when the skip is real short and the NCS desires a relay to the outlying net coverage areas. Give it a try and see how it works for you.

Kurt Myers, W8IBX, also notes in the *Report* that if you check your ARRL logbook or some other reference, you will be reminded that every Q signal has two meanings. One meaning applies if the Q is used with a question mark. The other meaning prevails if no question mark is used. A Q signal frequently used by traffic people is QRV. QRV? means are you ready? while QRV means I am ready.

Correspondence

Quite a bit of correspondence was received this month. It is a good sign and puts aside my fears that no one was reading the column. This column is intended as an outlet for your traffic handlers to advise the rest of the fraternity of net ideas or of new nets, etc., so the correspondence is always welcome.

I received a nice letter from Carl Hattan, KØBZV/KL7, in Cold Bay, Alaska. He sent along a solution to the last quiz and said how much he appreciated the **Worldradio News**. Seems he is several hundred miles from nowhere and it gets a little lonely up there. He relies on the amateur publications to keep him caught up on the latest developments and general amateur news. See how much we take for granted.

Warren Dilley, WB6PVH, the manager of the Daytime Region Six Net sent along some additions to the article on DNTS printed last month. He noted that the DRN5 Net operates on 7290 kHz at 2130Z; D9RN operates on 3940 kHz at 2100Z; and DTEN operates on 7230 kHz at 1900 Z and 2130Z. Thanks for the info Warren.

Gordon Wenz, W6BGF, wrote concerning the note on DNTS in the November issue. The Daytime NTS is definitely not an SSB only net. It is intended that CW operation be just as much encouraged as phone operation. Indeed, there are a number of CW only operators that cannot participate in the evening NTS because of work schedules and they are most welcome to help out on DNTS, in fact encouraged to help out. The coordination and liaison between the daytime and evening net sessions is beginning to work smoothly because of those stations that can check into the daytime net and carry traffic to the evening nets. This can be accomplished entirely on CW if you like. So do not hesitate to help with the daytime net because you operate only CW.

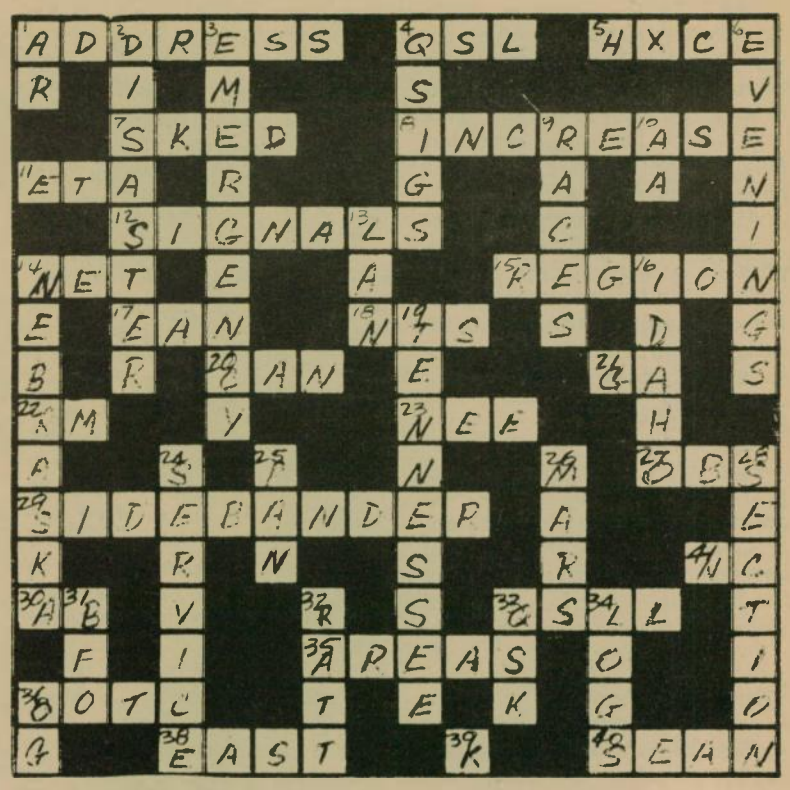
Gordon also forwarded a copy of a letter with a suggestion by Betty Amos, WA6IPI. The suggestion was prompted by the sad experience of receiving numerous service messages requesting "give better address" for message reports sent in response to HXC "Report time and date of delivery to originating station". Often, the only information available to the reporting station is that given in the preamble, which, obviously is insufficient unless the originating station is known to the station attempting delivery of the report message. Things get even worse when the place of origin is not the same as the location of the originating station.

The same problem exists for HXB, HXD, HXG and other types of service messages requesting a response.

Gordon suggests that the standard message format be modified to include more information regarding the originating station.

Specifically, he recommends that the telephone number of the originating station always be included in the preamble. Also, the previous practice of including the location of the originating station in the preamble, in addition to the place of origin when they differ, should be reinstated. For example: Nr 100 R W6BGF 7 La Mesa Cal via San Diego Cal 2225577 0130Z Nov 28.

If the originating station should desire to include more complete information when using HXB, HXC, HXD or HXG, it is suggested that this information be included after the signature as an optional message format. For example, after the signature



Solution to December Traffic crossword

add: HXC W6BGF Gordon Wenz AA 1055 Bangor St AA San Diego Cal 92106 Tel 2225577 AR. He points out that the advantage of having the phone number of the originating station far outweighs the slight lengthening of the preamble. If you have ever tried to deliver a message in response to one of the mentioned HX prosigns you know exactly what he is talking about. What do you think of this idea? Let us hear from you.

In response to the article in October regarding the need for another Q signal to indicate you only have a short time for the net, it was pointed out that an existing Q signal can fill the bill. QTX means "I will keep my station open for further communication with you until further notice or until_____". This could easily be adapted to mean "I will keep my station open for further communication with you for _____minutes". Lee Dimter, W6YBV suggests that you have only to send "QNX 10 PSE" if you wish to indicate that you have only ten minutes to spend on the net. How about sending along your idea?

Ted Sharp, K6UYK, sen along some ideas related to originating traffic to keep the system working during times of slack traffic. He suggests the following schemes: a) Christmas greetings by Amateur Radio. Save a $.40 card and a $.10 stamp. Be sure you have a phone number. b) If Christmas is important why not a July 4th, Labor Day, Thanksgiving, etc. message. c) Respond to your mail by message. Why not acknowledge receipt of a letter by radiogram. d) Acknowledge unusual QSOs by message. Also, acknowledge receipt of QSL cards. e) Comments on articles in *QST*, *Ham Radio*, and other magazines are easily sent by radiogram. If you belong to a professional organization send your colleagues messages and let them know you hope to see them at the next convention or gathering. Afterwards, let them know you were glad to see them there. This is great exposure of Amateur Radio because it gives a view of it to people who have usually had no previous contact with it. Try these ideas in addition to your present sources.

The Ohio Novice Net is a new program Sundays, Tuesdays and Thursdays on 3711 kHz at 1830 Eastern time. Manger is Jerry Kolb, a blind young man in Columbus with the call K8IKD. All checkins and traffic are welcome. Plans are in formation to have official W1AW bulletins transmitted on, before or right after the net.

RTTY

Does your area have an active RTTY traffic net? Let me know about it. We would like to s rt a nationwide RTTY net to clear traffic. Would you be interested in helping out?

Amateur Radio exists because it qualifies as a service

ART MALATSKY, WB2WFU

According to our government, Amateur Radio exists because it qualifies as a service. Its continued existence depends primarily on the continuation of that role. Public service communication has been a traditional responsibility of Amateur operators since 1913 and traffic handling has been the cornerstone of ARRL growth.

Most messages today are handled through organized traffic "nets". These nets are set up independently or organized in the ARRL sponsored National Traffic System (NTS). The NTS plan is a means for systematizing the flow of amateur traffic from point to point within the United States and Canada. Nets exist at the local, section, region and area levels to facilitate the movement of traffic.

Let me pause at this point to say that I am not going to give here a detailed breakdown of NTS or message format. These can be found in almost every ARRL publication from "Operating an Amateur Radio Station" to the "Public Service Communications Manual". What I would like to do here is introduce you to traffic and the reason why it is handled day in and day out.

Many times, while explaining traffic handling, the question of "purpose" comes up. Why do we handle the normal, everyday, mundane "greetings" type message? Why don't people use the telephone? Well, simply stated, without this daily flow of messages, the system would collapse. In the event of an emergency trained traffic handlers would not exist and there would be no way to handle the necessary traffic. Disorganization and confusion would reign supreme and the basic purpose of Amateur Radio would not be carried out.

Not every operator is destined to be a traffic handler. However, everyone should expose him or herself to it at one time during their amateur career. With the holiday season upon us, this is a great time to get involved. There is plenty of traffic to handle and you can get right into it. Your help is needed all the time, but especially during this season.

Nets are run on both phone and CW and at all levels of experience. There are fine nets in this area to get involved in. The New York City-Long Island Phone Net meets daily on 3928 kHz at 5:30 p.m. If this is an inconvenient time, the New York State Phone Traffic and Emergency Net meets one-half hour later at 6:00 p.m., 3925 kHz. This net usually remains open until at least 6:45. For CW operation there are also two nets available. Operators capable of 18 WPM are invited to check in to NLI, The New York City-Long Island CW Net, gathering at 7:00 p.m. on 3630 kHz. For Novice operators or slower CW folks of any class license, the New York City-Long Island Slow Net meets on 3730 kHz at 6:30 p.m.

So, as you can see, there are plenty of nets to QNI. Listen to one and check in. You don't have to be there all the time to be a member. Meet a great bunch of people and help Amateur Radio at the same time.

73

Art Malatsky, WB2WFU
ASEC (Assistant Section Communications Mgr.)
PAM (Phone Activities Mgr.)
New York City-Long Island Section, ARRL

—News Fuse, Hall of Science RC

Burning River Traffic Net

146.46 MHz simplex - seven days a week
9:30 p.m. local time
Lou Mide, WB8PSO, Net Manager
All welcome, with or without traffic.
October totals: QNI - 103, QTC - 85,
Sessions - 31.

●

Patronize our advertisers. They pay a good share of the costs of publishing **Worldradio.**

Take your hand-held to Bermuda

Bill Page, WB4LWX, reports that VP9BA operates on 34/94 from its Lighthouse location near Hamilton.

The repeater should be up and running using its new VHF Engineering machine by now. About 20 amateurs support the local club, the Radio Society of Bermuda. Visiting amateurs will find great hospitality from James Sayer, VP9BY, and Ed Kelly, VP9GE.

Accessing the repeater from aboard ships outside the limits seems to be okay but you will need a license from the Government Radio Inspector for operation on the island. There is no fee for a 30-day permit.

Bill reports that he worked two mobiles near Hamilton on 94 simplex from his cruise ship 30 miles off shore with a Standard 146A Walkie-Talkie.

—Repeater Journal

Surprise!

Two surprised amateurs discovered each other in Los Angeles Superior Court after four months of frequent morning mobile contacts through repeater WR6ABJ as they would drive to work downtown.

During this time Sheriff Bailiff Andy Romanisky, Jr., WA6WXD had been attending the usual morning Bailing Briefings conducted by Judge William Ritzi, Supervising Judge of the Superior Criminal Courts.

Meanwhile, back on the freeway, Andy happened to ask Bill, W6ONC, where he worked. It finally came out that Bill was the very same Judge! Neither had been aware of the other's identity till then, even though they had been in the same courtroom each morning.

Andy is very active with RACES sponsored by the Los Angeles Sheriff Department.

Before his present appointment Bill was the U.S. Assistant District Attorney in Los Angeles. Also he served as the first Chief Communications Officer.

Unusual experience

MARVE MAHREM, WØMGI

Prior to 1952, operating DL4HQ, I had QSOed Paul Bittner, WØAIH, of Stewartville, Minnesota several times (mainly because he was a DXer and put a good signal into Germany and because any WØ or Minnesota signal immediately perked up my ears).

I never got to meet Paul in person, but through listings in *QST* and *CQ* contest results I knew he had moved to Virginia, Minnesota and more recently to Grand Island, Nebraska.

Twenty three years roll by quickly and in the fall of 1974 I attended the Midwest Division Convention in South Sioux City, Nebraska. Some 250 delegates attended the first Friday evening "Get Acquainted" dinner — and who is seated at the same table right next to me — Rev. Paul E. Bittner, WØAIH!

—Bulletin — ARNS

CLUBS

Brochures

The Birmingham Amateur Radio Club will be happy to send copies of the brochure entitled "Ham Operators Talk to the World!" to interested clubs or groups.

The brochure answers such questions as "What is a 'ham' operator?", "What's the difference between 'hams' and CB?", "What do 'hams' do besides talk?", "How much does it cost?", "Okay, how do I get started?", and "Where do I find out more?"

Send SASE to:
Don Keith, WA4BDW
462 Ridgewood Ave.
Fairfield, AL 35064

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All we ask is that we be placed on the mailing list for your radio club's bulletin.

Amateur Radio day in Charlotte, NC

Bill Parris, K4GHR

The Mecklenburg ARS and The Charlotte Radio Club combined efforts on Saturday, 27 September, and co-sponsored the First Annual Amateur Radio Day in Charlotte.

Four demonstration stations were set up in four of the larger shopping centers during the day to acquaint the public with Amateur Radio. Contacts were made on both HF and VHF bands. Literature provided by ARRL was distributed and members for future Novice classes were enrolled.

Mayor Belk issued a proclamation from City Hall declaring Amateur Radio Day in Charlotte. Several local TV stations shot film during the operation and presented it on the late news.
—Repeater Journal

Jr. High General class

Science teacher Charles McConnell, W6DPD, has started an Amateur Radio club at the Wawona Junior High School, Fresno, CA. The club, which is also an Amateur Radio class, is called the Wawona Wildcat Amateur Radio Society (WARS), named after the school's mascot, the wildcat.

The class/club meets for about one and a half hours a week and will try to help each of its 15 members get all the way through to their General tickets.

W6DPD is to be commended for helping to keep young people interested in this great activity.

Appreciation

Mr. Roberto Morales, President
Radio Club de Puerto Rico
San Juan, P. R.

Dear Mr. Morales:

On behalf of the Officers and Staff of the Federal Disaster Assistance Administration, I wish to express my appreciation to the Radio Club of Puerto Rico and to all the radio amateurs in Puerto Rico who personally cooperated in acting as communicators at field offices in the disaster areas, and at FDAA Headquarters, Racquet Club Hotel in San Juan.

Yours truly,

/s/ Robert Ownbey
FDAA Communications Coordinator

SSB Handbook

E. H. MARRINER, W6BLZ

The Japanese put out a very comprehensive SSB Handbook. Although it is printed in Japanese, any one who reads circuits can make use of it.

Due to the exchange rate the cost is $12.00 postpaid.

Write Mr. Mitsue Murata, CQ Publishing Co. Ltd., 14-2 Sugamo 1-chome, Toshima, Tokyo 170 Japan.

The new 1976 issue is out. Send Bank Draft.

E. H. Marriner
528 Colima St.
La Jolla, CA 92037

BBB

DAVID DAVIS, W7MWF/ WB7BKN

As a subscriber to your paper I feel that the attached letter to me from the Better Business Bureau, Chicago, IL, regarding non-delivery of paid-for merchandise with Trigger Electronics of River Forrest, IL might be of some interest to you and your readers.

BBB/Chicago
Re: Trigger Electronics
Remarks: Please be informed, Mr. Davis, that during the past year the Bureau has received approximately 30 complaints involving non-delivery of merchandise against subject firm of which, unfortunately, the majority have not been settled.

Because of the nature and the number of complaints we've received, the Bureau is presently advising all complaintants to take further legal action through the following agency. We regret we have been unable to assist you.

Attorney General's Consumer Fraud Bureau
134 No. LaSalle Street, Room 204
Chicago, IL
(312) 793-3580

●

Let's have more "idea exchange." Let's talk to each other. One reader once called **Worldradio** "a roundtable in print." We like that idea. So, in this roundtable . . .

It's your turn to transmit.

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Atkinson & Smith, Inc.
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Electronic Exchange
136 N. Main St.
Souderton, PA. 18964

Arcade Electronics
7048 Columbia Pike
Annandale, VA 22003

Everhart Electronics
116 Sidney Street
Lexington, NC 27292

Electronics 21
21 East Derenne Avenue
Savannah, GA 31405

Hollister Electronic Supply
1747 Pearl Street
Jacksonville, FL 32206

J & H Electronics
1615 West Waters Avenue
Tampa, FL 33604

Universal Service
114 N. 3rd Street
Columbus, OH 43215

Queen City Electronics Inc.
7404 Hamilton Ave.
Cincinnati, OH 45231

Purchase Radio Supply
327 E. Hoover Ave.
Ann Arbor, MI 48104

Electronic Distributors
1960 Peck
Muskegon, MI 49441

Conley Radio Supply
101 South 31st St.
Billings, MT 59101

Heights Electronics
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Chicago Heights, IL 60411

Ham Radio Center, Inc.
8342 Olive Blvd.
St. Louis, MO 63132

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Anaheim, CA 92801

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Fresno, CA 93726

Ham Radio Outlet
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Burlingame, CA 94010

M-Tron
2811 Telegraph Avenue
Oakland, CA 94609

Quement Electronics
1000 South Bascom Avenue
San Jose, CA 95128

Sequoia Stereo
733-8th Street
Arcata, CA 95521

Selectronics
2204-06 Del Paso Blvd.
Sacramento, CA 95815

Oregon Ham Sales
409 West First Avenue
Albany, OR 97321

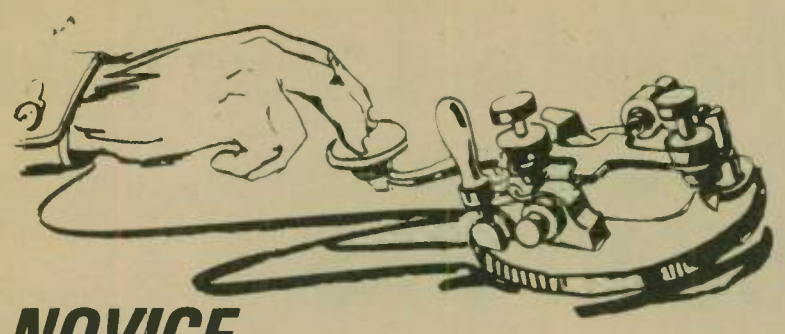
Radio Supply Company
6213 13th Avenue South
Seattle, WA 98108

Advanced Electronics
804 Dupont Street
Bellingham, WA 98225

Progress Electronics
852 Commerce Avenue
Longview, WA 98632

GDS Electronics
W 3711 Strong Rd.
Spokane, WA 99208

Etco Electronics
464 McGill Street
Montreal 125, Quebec
CANADA



NOVICE

NORM ROSSIGNOL, WN6DPR

Upon receiving my Novice license I tried four types of antennas ranging from inverted vees to trapped dipoles. All seemed to work fair but they required more space than I could afford. Also, signal direction was always northeast by southwest due to the area utilized.

Well, no more. Thanks to Ivan Corey, WN6GKE, of Roseville, California, I now use a modified military configuration. As you can see from the drawing, it's quite a strange looking antenna. A few vintage amateurs said, "It won't work." Well, true, it doesn't look like it would, but now I have worked Ed Saphore, WH6IPZ; John Weber, WN9PGY; Ruthe Ferguson, ZF1RF, and various others, all within ten days from when this antenna was installed.

When I received an RST of 569 from ZF1RF on Cayman Island I knew this was the antenna I was looking for. The antenna is not vertically or horizontally polarized, so in essence it hears both types of signals very well. The SWRs on 40 meters and 20 meters are very low — 1.1 to 1, but on *10* and 15 meters it does read higher.

I use a home-brewed transmatch on 10 and 15 meters but on 40 you don't need one. This antenna has a tendency to follow the propagation. It is omnidirectional and never fails to surprise me when I CQ and get an answer from a direction I didn't expect.

Construction

When constructing this antenna the feed point should be as far from any metal objects, such as raingutters, etc., as possible. When cutting the wire for each leg of the antenna add two extra feet of wire length; this will be used for trimming down the SWR. Pulleys are very handy on the high ends of the antenna in order to raise and lower the ends for trimming. My choice for support was two 20-foot masts spaced 21 ft. 6 in. apart. However, trees or a combination of both could have been utilized. Keep the spacing of both the high and low ends of the antenna at 21 ft. 6 in. apart; this is very important. Try to obtain a 45 degree angle in relationship to ground level. However, this is not critical as mine is about 30 degrees.

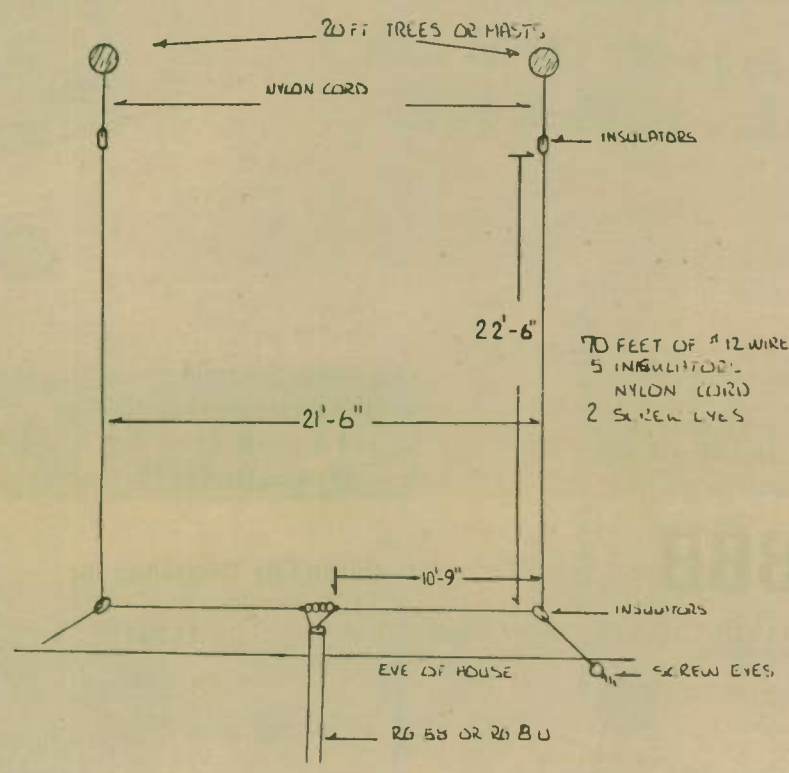
Tuning

Set your transmitter on 40 meters at 7.125 MHz. Make an SWR reading, then, if need by, trim each leg of the antenna three inches. Remember to cut both legs equally. Repeat this step until the SWR is down to a level at which you wish to operate. At 7.125 MHz my SWR is 1.1 to 1.

Cost for this antenna was around $20.00 but could have been made for far less.

So, fellow amateurs, if space and money are your problem, try tuning up with a "tuning fork" and get ready for some nice surprises.

Novices, for information on licensing classes please see this month's Teacher column.



TEACHER

JIM PENDLEY, WB6RMG

Last spring I taught an Amateur Radio licensing class for the External College branch of Imperial Valley Community College. I can provide some guidance for anyone who might wish to go this route in their own community.

They will find that they must apply for a state credential which will cost $15.00. I put down possession of my Advanced license as necessary background and the credential in this limited area was granted. It is good for life.

The class was three hours a week for nine weeks and had 15 of 17 completing their Novice exams. Code was given in split practice sessions of about 15 minutes each with lecture between. Code characters were sent at 13 wpm and spaced to five wpm or whatever was needed. This seemed to work well with this group.

I had the class bring two 60-minute cassettes as part of their materials. I then ran off a new tape of code practice each week and used a high speed duplicator to make a copy for each student. With the second tape I could prepare next week's lesson. The students could then erase the previous tape or bring in a spare tape until they were finished. (Some brought in nine and had a whole set for practice.)

The most important thing I could pass on is from experience.

1) Don't be afraid if someone in your group knows more about electronics than you. Use this knowledge to your advantage.
2) The ability to communicate a little knowledge well is more important than a lot of knowledge poorly.

It is often that I feel that I don't know enough electronics to teach such a class but then I go back to the license manual and review what is needed for the exam. The amateur license wasn't intended for the professional; it was intended for the experimenter, one who has things to learn.

Teach Novices to enjoy Amateur Radio and pass on your enjoyment, enthusiasm and patience and they'll learn more during their first 50 contacts than you can teach them previous to receiving their licenses.

My new class started in November and I am trying a new book, Radio Shack's "5 watts to a 1000 watts" which looks very promising. (Ed. note— It is.) My address is 2041 Low Road, El Centro, CA 92243.

Classes

GEORGE BUCHANEN, WB2FVX

I teach a Novice and a General course in the continuing education program at Harrison High School in Harrison, New York. Each course meets one evening a week for two hours minimum for ten sessions.

The Novice course includes code and theory and the General course is basically theory. I did offer a code course but there was very little interest so this was not held, although in checking the proficiency of my General students I find that they definitely need it. I will probably include code in the future but as this is my first General course I am still trying to figure out how much time is needed to insure that the students receive enough theory to pass.

I can be reached by prospective applicants at (914) 761-4183 in the evenings (my home phone number) and there is an answering machine which will take messages when I am not there.

Due to a stringent austerity budget in Harrison, there is a charge for the course of $25.00 which covers overtime for custodians and school administrative personnel, also heat, lights, etc. The courses must be self-sustaining which means a minimum of ten. If there are ten paying students, senior citizens with cards of identification are accepted free. If there are not ten, al. students are charged.

Science center offers courses in Amateur Radio and electronics

The Hall of Science of the City of New York will conduct a series of twelve instructional and practice sessions for teens and adults in Amateur Radio beginning Saturday 17 January 1976 from 10:00 a.m. to 12:00 noon and continuing on consecutive Saturdays. Courses for the Novice, Technician, General and Advanced Class FCC Amateur licenses will be presented.

A twelve week course in Basic Solid State Electronics will be held on consecutive Thursday evenings, 6:30 p.m. - 8:30 p.m., beginning 22 January 1976. The course will instruct in basic components and circuits in solid state devices used in radio.

(please turn to page 45)

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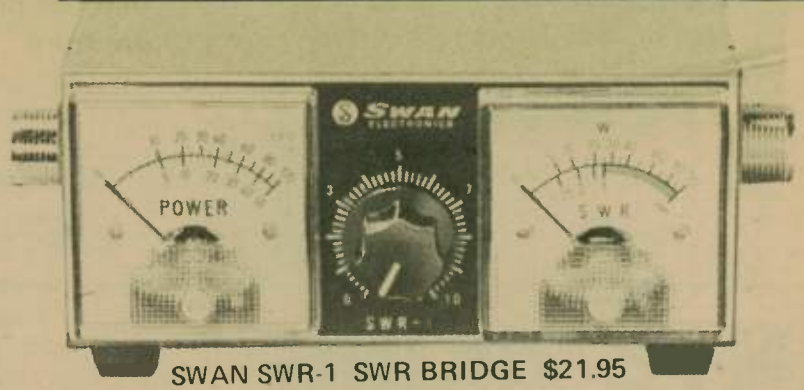

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80-10AT SKYMATCHER™

Here's an antenna tuner for 80 through 10 meters, handles full legal power and matches your 52 ohm transceiver to a random wire antenna.

- Continuous tuning 3.2—30 mc
- "L" network
- Ceramic 12 position rotary switch
- SO—239 receptional to transmitter
- Handles maximum legal power
- Random wire tuner
- 3000 volt capacitor spacing
- Tapped inductor
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- 7" W. 5" H. 8" D., Weight; 5 pounds

$59.50

ATLAS RADIO SOLID STATE TRANSCEIVERS

Atlas 210-X or 215-X Transceiver $649.00 Cash No Trade No MC/BAC
You will receive FREE MT-1 Mobile Matching Transformer valued at $24.00

Atlas Accessories Available:

Atlas 220-CS AC Console $139.00. Plug in Mobile Mount $44.00
DC Cable $12.00, MT-1 Matching Transformer $24.00, Mobile Mounting Bracket Standard $6.00, PC-120 Noise Blanker $48.00, Vox Accessory $45.00, 200-PS Portable AC Supply $95.00.

ALL SHIPPING PAID ON WATTMETERS, SWR BRIDGE, CLOCKS AND TUNERS.

Plugs directly into special DC Mobile Mount or into the AC Console

KENWOOD TS-520

SSB TRANSCEIVER

FEATURES OF TS-520 TRANSCEIVER

1. Both A.C. and D.C. Power supplies Built In.
2. Rugged S-2001 Final Tubes
3. Speaker Built In.
4. Speech Processor Built In.
5. RIT Receiver Incremental Tuning . . Built In.
6. Built In Fan At No Extra Charge.

If you are on 2-meters

. . . but you're tired of being stuck with too few channels

. . . and you'd like more versatility

. . . and you really do need tunable VFO

. . . and SSB-CW (don't forget OSCAR!)

. . . . . ALL THIS AND MORE FOR $629.00 YOU BE THE JUDGE. COMPARING FEATURE FOR FEATURE, PRICE FOR PRICE . . . . . YOU CAN'T GO WRONG WITH THE TS-520.

GET ONE TODAY!!!!

WHEN YOU LIVE IN MONTANA YOU NEED A TOUGH RIG.
WE OWN A KENWOOD TS-520 AND IT GETS THE JOB DONE!!

. . . you need Kenwood's NEW TS-700A

TS-700A - $700.00

It solves all of these problems and lots more. And best of all . . . the TS-700A reflects the type of quality that has placed the Kenwood name out front.

- Operates all modes SSB (upper & lower) FM, AM, and CW
- Completely solid state circuitry provides stable, long lasting, trouble-free operation
- AC and DC capability Can operate from your car, boat, or as a base station through its built-in power supply
- 4 MHz band coverage (144 to 148 MHz) instead of the usual 2
- Automatically switches transmit frequency 600 KHz for repeater operation reverses too
- Outstanding frequency stability provided through the use of FET-VFO
- Zero center discriminator meter
- Transmit/Receive capability on 22 channels with 11 crystals
- Complete with microphone and built-in speaker

DURING JANURARY AND FEBRUARY WE WILL GIVE YOU A FREE SHURE 401-A MICROPHONE IF YOU PURCHASE A TS-520 FOR $629.00 CASH. NO TRADE/NO MASTERCHARGE OR BAC. SHIPPING FOB, BILLINGS, MONTANA. REMEMBER NO SALES TAX IN MONTANA.

KENWOOD PRODUCTS PRICED AS FOLLOWS:

TS-520	TRANSCEIVER	$629.00
VFO-520	EXTERNAL VFO	$115.00
SP-520	EXTERNAL SPEAKER	$ 22.95
CW-520	500 HZ CW FILTER	$ 45.00
TV-502	2 METER TRANSVERTER	$249.00
TS-900	TRANSCEIVER	$795.00
PS-900	POWER SUPPLY/SPEAKER	$120.00
R-599D	RECEIVER	$459.00
T-599D	TRANSMITTER	$479.00
S-599D	SPEAKER	$ 19.95
CC-29A	2 METER CONVERTER	$ 31.00
CC-69A	6 METER CONVERTER	$ 31.00
FM-599A	FM FILTER	$ 45.00
TS-700A	2 METER TRANSCEIVER	$700.00
QR-666	GEN. COVERAGE RECEIVER	289.00

LITATURE ON ALL KENWOOD EQUIPMENT AVAILABLE ON REQUEST. IF YOU WOULD LIKE TO BE ADDED TO OUR PERMANENT MAILING LIST SEND US ONE OF YOUR QSL'S WITH YOUR CURRENT ADDRESS AND CALL. WE'LL ADD YOU.

*Prices subject to change without notice.

CONLEY RADIO SUPPLY

101 - South 31st Street
Billings, Montana
(406) 259-9554

INTERFERENCE

Dr. Theodore Cohen, W4UMF

Points-of-Contact for obtaining assistance on RFI problems

In a recent announcement, Hal Richman, W4CIZ, Technical Advisor to the ARRL RFI Task Group, stated that information was now being made available by the League on who, within a given company, is responsible for handling RFI complaints and who might be able to expedite replies to inquiries and to initiate investigations which will help resolve problems.

Assembled with the cooperation of almost 50 manufacturers, the type of information available is shown in the following examples:

Baldwin Piano & Organ Company
1801 Gilbert Avenue
Cincinnati, Ohio 45202
(513) 621-4300
Mr. Robert C. Scherer, Manager
Organ Technical Service

Electronic Organs

RFI COMPLAINTS ARE USUALLY HANDLED BY THE LOCAL Baldwin service technician. Factory personnel are available to assist the technician when needed. Baldwin maintains its own staff of technical representatives who travel in the field and may be called upon to assist the dealer technician with difficult problems, including RFI.

Baldwin provides technicians with a detailed instruction bulletin entitled "Hints on Suppressing RF Interference".

RFI complaints should be referred to the local Baldwin dealer.

Harman-Kardon, Inc.
Subsidiary of Jervis Corp.
55 Ames Court
Plainview, New York 11803
(516) 681-4000
Mr. Robert Brady -
Director of Engineering

Receivers - Amplifiers - Turntables - AM/FM Tuners - Preamps - Record Players - Tape Recorders

Customers should refer RFI problems to:

Mr. Len Gaynor
Manager of Customer Service

Customer RFI problems are handled on an individual basis. If local, the customer is invited to bring the affected set into the plant. Non-local customers are referred to the nearest warranty station. Corrective action is provided at no cost to the customer.

The list was summarized from statements provided by manufacturers and distributors and so should not be construed as an endorsement by the ARRL of the policies or products of any particular manufacturer.

The list of manufacturers is included in the League's revised RFI Packet. If you already have a packet, or if you wish to have only a copy of the list, send a business-sized, self-addressed envelope with postage for one ounce to League headquarters, requesting the points of contact for obtaining assistance on RFI problems.

Correspondence from the Electronic Industries Association (EIA) on RFI problems indicates that the Association would like those filing RFI complaints with them to note the date of purchase for the home-entertainment device on the complaint. We are unsure as to why the EIA wishes to know the purchase date of a given device. One can only assume an argument will be made that the manufacturers should not have to be responsible for their devices once the warranty period has elapsed. It should be pointed out, however, that in the case of RFI, we are not concerned with the failure of a component but with basic design deficiencies. And such deficiencies should be corrected by the original-equipment manufacturer regardless of a product's age.

Complaints to the EIA may be sent to the following address:

Ms. Sally Browne
Director of Consumer Affairs
Consumer Electronics Group
2001 Eye Street, NW
Washington, DC 20006

While on the subject of assistance provided by the EIA, it is interesting to note that a major American manufacturer and distributor of home-entertainment devices, who is a member of the Association, recently offered to buy a radio back if the consumer was unhappy with its performance. This action, however, came only as a result of the consumer filing an RFI complaint with the EIA (with a copy to the Federal Communications Commission). Like everything else today, you have to make your voice heard if you want action!

Last month we noted that several Congressmen had joined with Mr. Vanik in sponsoring H.R. 7052. We have now obtained their names and they are shown below:

Thomas L. Ashley (Maumee) — Ohio
Donald M. Fraser (Minneapolis) — Minnesota
Gilbert Guide (Bethesda) — Marylanc.
Jerry M. Patterson (Santa Ana) — California

Also co-sponsoring the bill is Delegate Ron de Lugo of the Virgin Islands.

Have you written your congressman in support of H.R. 7052? Don't you think it's time you did! Send a letter of support to your congressman, using the following form of address:

The Hon. John Smith
U.S. House of Representatives
Washington, DC 20505

The September 1975 issue of *LARU Region 1 News* carried an article entitled "Interference to Audio Equipment". Basically a reprint of an announcement provided by the Radio Division, Post Office Headquarters, New Zealand, the following excerpts will be of interest:

"Most audio devices...will function satisfactorily in normal circumstances but if operated near a radio transmitter some are unable to reject the radio signals which are rectified in the device and appear as unwanted sound in the output.

"The only way to deal with this unwanted reception is to return the device to the supplier or manufacturer for modifications which will prevent reception of the interfering radio signals." signals".

We've picked up some support for H.R. 7052 from an unexpected corner. As noted in the December 1975 issue of *High Fidelity*, "The Boston Audio Society, one of the nation's most active (and best respected) high fidelity clubs...", is backing the bill. A spokesman for the Society recently noted: "The methods of suppression are difficult and nebulous at best, and most consumers are powerless to alter their equipment to eliminate RFI. But some equipment is far less prone to this interference, and the fact that it is price competitive with equipment (that) is not RFI suppressed indicates that solutions...are not prohibitively expensive. (Thanks to Charles Boegel, Jr., WØCVU, for passing this along.)

As a last note, I encourage readers with newsworthy information on RFI matters to send me material for possible use in this column. I will, of course, note all sources used. Please send your information to:

W4UMF
8603 Conover Place
Alexandria, VA 22308

Classes

(*continued from page 41*)

television, stereo and other audio and radio frequency equipment used in the modern home.

These courses are offered in cooperation with the American Radio Relay League and are attended by boys, girls, men, women, students, professionals, 'hard hats'', housewives, ages 10 thru 73.

Since participation in these courses is limited, advanced registration is required. There is a registration fee of $8.00 for the Amateur Radio Licensing Courses and $15.00 for the Electronics Course. There is a nominal charge for text books and code practice equipment in the licensing courses.

Registration is open to all. The Hall of Science is located at 111th Street and 48th Avenue on the Corona side of Flushing Meadow Park and is easily reached by the I.R.T. Flushing line 111th Street station or the Q58 and Q23 buses.

For further information and to obtain registration forms, write or phone the Hall of Science, P.O. Box 1032, Flushing, New York 11352 or phone 212-699-9400.

I will be starting 2 new classes in January 1976 for Novice, General and Advanced licenses. I ' .d an Advanced license.

Anyone wishing to contact me for above classes, my address is as follows:

Harry P. Davies, W1HCM
3 Essex St.
Dover, NH 03820
(603) 742-9612

Novice Class Instruction in code and theory conducted at Scott Radio, 266 Alamitos, Long Beach, CA every Saturday from 2 p.m. to 4 p.m. Code instruction by Rose Fischman, WA6LRW. Theory by Lyle Gardner, K6IPJ. Further information can be obtained by phoning Scott Radio or 422-5987.

Novice Classes will begin at the University of Minnesota, Duluth, MN as part of the Free Universe-City, on Tuesday, 13 January 1976 at 6:30 p.m. This ten-week course will again be taught by WAØQIT, Les Taylor. Morse Code, FCC Rules and Novice Theory will be taught.

For more information call Les at 624-2758 or register with Free-U office the week before by calling 726-8524.

SSTV

(*continued from page 32*)

8. Logs

Logs should contain: Date, Time of contact (GMT), Band in use, Call sign, Report (RST) sent and received. Serial numbers sent and received, points, multipliers and final score.

Although not essential, it would be appreciated if entrants could enclose a cover sheet with a short description of the Station (with photo if possible) together with any comments on the Contest.

All entrants are kindly requested to report on any serious Contest irregularities, e.g. exchanges in other modes.

For entrants in the b. Classification it is only necessary to record the message of the station heard.

Logs must be received by not later than March 25th 1976 in order to qualify.

Send U.S. Logs only to:
Dave Ingram, K4TWJ
Eastwood Village #604N
Rt. 11 Box 499
Birmingham, Ala. 35210

All other Logs to:
Prof. Franco Fanti
Via A. Dallolio n.19
40139 Bologna ITALY

9 Prizes

World:

1st-a free 12 months's subscription to *CQ Elettronica Magazine*

2nd-a free 6 month's subscription to *CQ Elettronica Magazine*

3rd-a free 6 month's subscription to *CQ Elettronica Magazine*

U.S.:

1st-a one year's subscription to *73 Magazine* and **Worldradio** News

2nd-a one year's subscription to **Worldradio** News

3rd-a one year's subscription to **Worldradio** News

10. Rules of Behaviour and Penalization

The Logs must be compiled in accordance with the Rules listed in (7). The contacts must be made by means of the SSTV mode and it is not permitted to use other mode of transmission either before, during or after the exchange of message by Slow Scan Television.

During the Contest it is expected that amateurs will observe the fundamental rules of courtesy and good operating during contacts.

Failure to observe any of the above Rules will result in the exclusion of the entry from the final results and any such Logs received will be considered as check Logs.

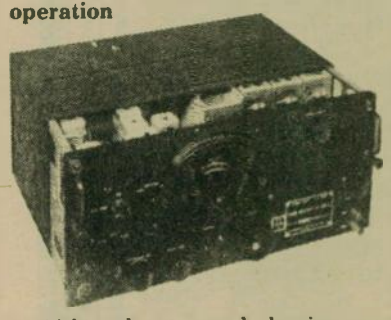
All Logs received become the property of the Edition CD and will not be returned. The decision of the organizing Committee in any dispute will be final and any subsequent controversy cannot be referred to the Civil Court.

GOVERNMENT SURPLUS

Col. Wayne Russell

article four of a series)

RADIO RECEIVER BC-348, Conversion for Amateur Radio operation



Although a good basic receiver, each modification brings this popular surplus unit closer to the requirements of an amateur communications receiver. While these modifications are designed for the Wells-Gardner BC-348-J, N and Q models, other models, E, M, P, O, R and S, are electrically and mechanically quite similar. Although circuit design is considerably different between the models these modifications will apply to all.

General Description

The BC-348 is a locally controlled, eight-tube, six-band, superheterodyne, covering the frequency range of from 200 to 500 kHz and 1.5 to 18.0 MHz. Designed to operate on a 28 volt dynamotor which is self-contained. Excellent selectivity, sensitivity and stability make the BC-348 one of the most outstanding communications receivers available from government surplus. Easily converted to 115 volt ac operation. Controls are located on the front panel; antenna, ground and headphone connections are made on the front panel. Power and speaker connections are made on the rear of the receiver. Capable of voice, tone and CW reception. Manual or automatic volume control, I-F crystal filter selectivity, BFO for CW reception. 100 to 1 ratio gear driven vernier tuning control. Electrically the BC-348 comprises two stages of tuned radio frequency amplification preceding the first detector, a temperature-compensated heterodyne oscillator, three intermediate frequency amplifier stages, a second detector and one stage of audio-frequency amplification with a transformer output circuit. Crystal band-pass filter is also included. I-F frequency is 915 kHz.

Six bands controlled by a band change switch on the front panel are covered. The frequency for each band is given in the following table:

Band	Frequency Range
1	200 to 500 kHz
2	1.5 to 3.5 MHz
3	3.5 to 6.0 MHz
4	6.0 to 9.5 MHz
5	9.5 to 13.5 MHz
6	13.5 to 18.0 MHz

Tube Complement:

#	Tube type	RMA equiv.
1	VT-116	6SJ7
4	VT-117	6SK7
1	VT-150	6SA7
1	VT-152	6K6 GT
1	VT-233	6SR7

Military technical manual covering the operation and maintenance of the BC-348 is identified as TO 12R2-3BC348-2.

Modification of the BC-348 for conventional power supply

As originally supplied these receivers were designed to operate from a 28 volt dc supply; however, they may be easily and inexpensively modified to operate from a 115 volt ac supply.

The following simple internal wiring changes are required for 115 volt ac operation:

The dynamotor is fastened by four mounting screws at the corners of the mounting plate and the five electrical connections are made at a terminal strip accessible through a cut-out in the left chassis end plate.

Unscrew and remove the five wires from the dynamotor terminal strip — remove the dynamotor from the receiver — reconnect the five wires as follows:

- minus high voltage — to chassis ground
- plus high voltage — isolate (wrap with tape)
- minus low voltage — to chassis ground
- plus low voltage — to center wire
- center wire — to plus low voltage

Construction of conventional power supply

The one essential construction is the power supply to the receiver. Although the power supply may be internally constructed in the space formerly occupied by the dynamotor, the preferred method is the construction of a power supply and speaker combination in a separate enclosure, cabled to the receiver.

Power requirements of the modified BC-348 are 24/28 volts ac for the tube heaters and dial lamps and 220/250 volts dc @ 60/90 ma for plate voltage.

The use of two transformers to obtain these voltages is the most economical arrangement, unless you are lucky enough to have the appropriate transformer available from your "junk box". Many different circuit arrangements have proven satisfactory as the values are not critical. Your "junk box" or local electronic supply shop substitutes will provide the necessary ingredients. An example of a suitable power supply is shown in Figure 1.

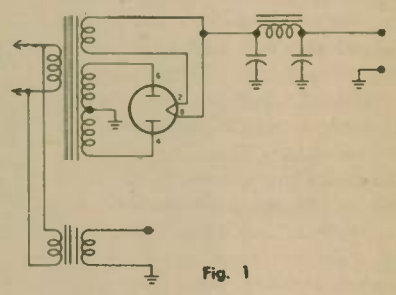


Fig. 1

Parts List

Power transformers:
500 vt C.T. 90 ma, 5 vt 3 amp
24 vt 1 amp
Capacitors:
450 vt, 20 mf
Choke:
10 henrys, 90 ma
Tube:
5Y3 or 5V4 or 5U4

Connection of conventional power supply to BC-348

If a cable socket cannot be located to fit the receiver out-put male plug (SO-104), ingenuity, drilling and filing are called for to replace the original out-put plug with an available socket and plug from your "junk box" or local supply.

Power/Out-put Connections — Plug SO-104 — (Figure 2)

1. Audio Output
2. Relay (short to 6 for receive) 220/250 vt dc
3. plus 24 vt ac
4. plus 24 vt ac
5. Out-put (ground)
6. Relay (short to 2 for receive) 220/250 vt dc
7. Receiver/power supply ground
8. Receiver/power supply ground

As a precautionary measure replace one of the front panel phone jacks with a toggle switch. Connect this switch in series with the power supply transformer primary so you won't have to rely on the original 28 volt switch operating at 115 volts.

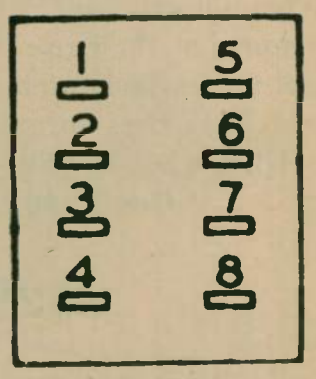


Fig. 2

Speaker connection

There are both high, 4500 ohms, and low, 500 ohms, taps on the audio out-put transformer. Make sure the connection is set at the high tap. This will allow connection of a loudspeaker directly to the set by means of

(*please turn to page 37*)

Product review

AL MASTON, W6JYQ

The new Digital Dial all LED Dot Matrix Display that plugs into any Atlas transceiver is another sensational addition to Amateur Radio.

There are no wires to solder or fuss with and no looking at a schematic. Just plug it in the external osc. socket and that's it. It has a six digit display which reads to 100Hz and which is bright enough to be clearly visible under high ambient light.

It reads both on receive and transmit, and get this — it measures 1⅛" high by 4½" wide by 5" deep. It easily sits on your dash while mobiling or sits on your AC console when operating fixed station.

I own and operate the Atlas product mobile and fixed and know it's the only way to go. I have seen and tried many other products and believe me, Atlas products merit their outstanding reputation.

The careful attention you get when inquiring for info or help from Atlas is remarkable. I've heard so much from other amateurs who have requested a small, insignificant part for their rigs and have to wait an ungodly length of time in getting it. Not with Atlas!

Clint Call, W6OFT, a top engineer who is the Customer Service Manager for Atlas, is doing exactly what the job calls for: service to the customer, and I do mean first class service.

Many are asking why Atlas hasn't come out with the all band transceiver — 160 through 10 meters. Well, don't be surprised when you see Atlas Radio Inc., owned by Herb Johnson, W6QKI, take the lead in all-band transceivers, fully solid state with digital readout plus possible external transverter for 6 and 2 meters added. Who knows!

Atlas Radio's continuous improvements are a blessing to Amateur Radio and a record in engineering and craftsmanship. Few men have and deserve the outstanding reputation and great respect that Herb Johnson commands among amateurs for giving us such an excellent product.

Real pals

Since the November, 1975 issue the following have taken out Worldradio lifetime subscriptions. Our deep thanks.

H. W. Fulwider, Sr., W4AIL
William M. Glenn, Sr., WB4FOD
John Anslow, WA6DPJ
John S. Shami, WB2ISL
Winthrop H. Owen, WA6CBJ
Theron & Kay Woods, W6HDG
Aaron S. Aaronian, K6UFC
Louis E. Pfeifer, Jr., W2CDS
Ben Lane, W7FNE
Harold M. Steinman, K1FHN
Phillip L. Miller, M.D., WB6QQO
Br. Robert Kreutzer, C.P.S., W9NJA
Don Burr, W6WME
Rev. Daniel P. Stretch, CP1BN
Frederick Marvin, WA6BXJ
Floyd M. Luney, WA6HGH
Alan E.H. Venning, VE7LL
Mick Mickie, HE9GWY
Gordon Milldrum, WB6JAD
Neil Penfold, VK6NE
Jukka Heikinheimo, OH2BR
Michael B. Flaherty, WA6UBW
Larry J. Shima, WØPAN
Bo Aggefors
Richard J. Cotton, W8DX
George Mangus, WB4UIW
Linda Sumida, WB6QMD
Seymour Harrison, VE1ABM
Dr. Sam Rosen, WA2RAU

Free

Free service. As a magazine collector I have files of most amateur and electronics magazines and will be glad to provide free photocopies of any item available. Presently in the "archives" are *QST* 1921-1975; *CQ* 1947-1975; *73 Magazine*, *Popular Electronics* and *Electronics Illustrated* complete; *Ham Radio* except 1974 and 1975; numerous *Callbooks* 1940-1965; most *ARRL Handbooks* 1935-1965. Also available is a complete set of Perpetual Troubleshooter's Manuals, Radio Receivers, 22 volumes. There is no cost and, please, no postage or envelopes; they only slow things down. For fastest service phone afternoons or weekends. Don Erickson, 6059 Essex Street, Riverside, CA 92504, (714) 687-5910.

THE MART — CLASSIFIED
Private individuals, 5 cents a word
Business firms, 10 cents a word.
Send to:
The Mart, **Worldradio,** 2120 - 28th Street, Sacramento, CA 95818.

Frame, display and protect your QSL's with 20 pocket plastic holders, 4 for $2.00, 7 for $3.00 prepaid & guaranteed. TEPABCO, Box 198W, Gallatin, TN 37066.

Mobile Ignition Shielding provides more range with no noise. Available most engines in assembled or kit forms, plus many other suppression accessories. Free literature. Estes Engineering, 930 Marine Drive, Port Angeles, Wash, 98362.

Medical: Any licensed amateur radio operator in the medical or paramedical field should join MARCO (Medical Radio Council). Contact: Stan Carp, M.D., K1EEG, 44 Main St., Saugus, MA 01906, (617) 233-1234.

Editing a Club Paper? Need some help? Amateur Radio News Service would like to hear from you. For info. write: Sybil Allbright, W6GIC, 8658 Encino Ave., San Diego, CA 92123.

Revolutionary!!! Learn or improve CW ability the easiest way. Developed by Russ Farnsworth, W9SUV. 13 wpm in half the time 3 LP records, $9.95, CA + tax DANA RADIO, 2704 16th St Sacramento, CA 95818.

Be prepared for emergencies with the SST T-1 Random Wire Antenna Tuner. Also great for field day, camping trips, and home operation. Tunes a random wire for all band operation (160-10 meters). $29.95 postpaid. 90 day guarantee. See large ad this issue, SST Electronics, Box 1, Lawndale, CA 90260 (Calif. res. add 6% sales tax).

Picture QSLs of your shack, etc. 250-$10.00, 1000-$19.50. Full color at $38.50 single thousand. Picturecards, Box 5471, Amarillo, TX 79107. (806) 383-8347

Teletypewriter parts, manuals, supplies, equipment, Toroids, SASE for list. Typetronics, Box 8873, Ft. Lauderdale, FL 33310, W4NYF. Buy parts, late machines.

Reconditioned Test Equipment. 50 cents for catalog. Walters, 2697 Nickel, San Pablo, CA 94806.

Video recorder-reproducer electronic assembly. Contains power supply with adjustable, regulated outputs of 10 to 18 VDC (15 VDC 1½ amps.) Third output is 10VDC at 3 amps. Perfect for CMOS, TTL, Op-amps. Contains over 900 useable parts with extremely long leads. Includes 182 transistors, IC's, diodes, and FET's, numerous resistors, capacitors, crystals, inductors, delay lines and varicaps. Transistors will operate in HEATHKIT TV's. Schematics and semiconductor cross reference supplied upon request. Total price including shipping is $15.00. Write to MADISON ELECTRONICS COMPANY, INC., P.O. Box 369, Madison, AL 35758 for a free brochure.

Wanted: An opportunity to quote your ham needs. 37 years a ham dealer. Collins, Drake, Ten-Tec, KLM, Swan, Kenwood, Tempo, Dentron, Regency, Icom, Hy-Gain, and all others. Also $25,000 inventory used gear. Request list. Chuck, W8UCG, Electronic Distributors, Inc., 1960 Peck, Muskegon, MI 49441 (616) 726-3196, Telex-22-8411.

Beginners RTTY Handbook — Brand new with everything you need to know to get on RTTY. Theory, application and simple equipment you can build, $2.50. Published by the RTTY JOURNAL, PO Box 837, Royal Oak, MI 48068.

Free QSL samples — stamp appreciated. SAMCARDS, 48 Monte Carlo Dr., Pittsburg, PA 15239.

Prestige call or desk plate engraved on 2x8 blue, black, red or simulated walnut plastic-$2 ea. Winser, 2049 Yosemite, Milpitas, CA 95035.

Free Catalog! Semiconductors, ICs, Diodes, RF Transistors. Tubes, etc. Send SASE to MHz Electronics, 2543 North 32nd St. Phoenix, AZ 85008. Phone (602) 947-1287.

Buy — Sell Recondition Teletype Machines, Acoustic Couplers, Modems, CRT's and accessories. Call or write: Vardon & Associates, Inc., 930 N. Beltline, Suite 140, Irving, TX 75061, (214) 252-7502, TWX 910-860-5761.

COMMUNICATIONS EQUIPMENT, SUPPLIES and INFORMATION—Technical manuals, Instruction books, Lesson books, Training manuals, Teletype manuals—equipment—supplies, Facsimile equipment—supplies; Data booklets for: Model 19 Table and teleprinter wiring; CV89 AFSK/FSK Teletype Converter; AN/SGC-1 AFSK/FSK Teletype converter; Stelma TDA-2 (TS-1060/GG) Teletype Distortion Analyzer; Complete Teletype Gear Guide; each $2.95 postpaid. Model 15 complete manual, brand new—$12.95 postpaid. Facsimile primer booklet—$3.95 postpaid. BVE Enterprises. POB 73, Paramus, NJ 07652.

Auto-Call keeps up with the latest ham info from Washington, D.C. Subscriptions $3.50 a year, sample copies 25 cents. Address: Auto-Call, 2012 Rockingham, McLean, VA 22101.

Wanted for boy's club. Technical Books, Magazines, and courses. E. Ezekiel, 43/2 Shaviv, Herzlia 46-221, Israel.

Licensed Radio Amateurs any nation may join the International Amateur Radio Journalistic Society and receive a valid PRESS CARD. IARJS is a non-profit, tax-exempt "Education-Society", a charitable Foundation, Code 501 (c) (3). Dues and contributions are IRS tax deductable. Write to Box 385. Bonita, Calif. 92002.

No DX QSLs? Try ham sentences in 54 languages on your card. It works! K3CHP's DX QSL GUIDE $3.95. Joe Mikuckis, 6913 Furman Pkwy., Riverdale, MD 20840

Muffin fans, 4 11/16" sq. Used, checked perfect. $7 ea pp. Royal, Box 2174, Sandusky, Ohio 44870.

Used Mylar Tapes - 1800 feet, ten for $7.50. Used 8-track 84 minute tapes, ten for $10.00. Postpaid. Fremerman, 4041 Central, Kansas City, MO 64111.

Morse encoded keyboard. easy to operate — $129.95 Keyer — $49.95, with memory — $99.95. Fully warranted. Logic Division, Box 62201, Los Angeles, CA 90062.

No Wall Space? Try our compact rotary QSL file. Comes with 80 pockets for 160 5½x3½ cards. $11.40. Package of 15 extra pockets, $1.25. Postage paid. Arizonans add 5% tax. We also produce ALKANPRINT QSLs, catalog and samples, 20c. Alkan Products, Box 3494, Scottsdale, AZ 85257.

Wanted: Generous Americans willing to send expired CALL-BOOKS to DXers. Write IARS Inc. Friendship and B-H Program, Box 385, Bonita, CA 92002.

Hand tools and desoldering aids. Large inventory. Free brochure. R.L. Syphers Associates, P.O. Box 883 Dept. M, Bensenville, IL 60106.

2-meter FM operating shirts! Details — MZS BOOKS, 8041 N. Hamlin, Skokie, Illinois 60076.

The Mark IV and Mark VI rotary antenna switch for use in directional inverted "V" wire beams has been joined by the Diamond Four rotary multiband switch. For details write Worldwide Antennas, Box 221, Montreal International Airport, Dorval, Quebec, Canada.

Build your own radio desk/console cabinet. Design drawings, photographs — $4.75. Bill Morris, WA5RSC, P.O. Box 411, Lubbock, TX 79408.

Japanese transistors. All transistors original factory made. Free catalog. WEST PACIFIC ELECTRONICS, P.O. Box 25837, W. Los Angeles, CA 90025.

Join largest worldwide DXer SWL, B-H, "Certificate Hunters' Club" (B-H pay no dues/fees). Publishes international Copyrighted Awards Directory, Non-Profit Organization. Write IARS Inc. Box 385, Bonita, CA 92002.

Bay Area Ham Radio Repairs. All types. Mark, K6BE. Berkeley. 415-548-1889.

Prop Pitch motors wanted — medium sized, in good condition. Need repair and maintenance manuals if available with motors, or separate. Need several for friends overseas, J.P. Ashcraft, WB5BFZ, 3008 Southwestern Blvd., Dallas, TX 75225.

Atlas Ops. Share in the Atlas Adventure Newsletter and Club being organized. Send SASE for full details and sample Newsletter. c/o ATLAS Newsletter, 9004 Harvest Way, Sacramento, CA 95826.

Do you want to enjoy your life and job more? Send SASE to learn how. **30 Day Results Guaranteed!** D-D Enterprises, PO Box 7776, San Francisco, CA 94119.

Wanted: Past or present Aviation PILOTS or COMMUNICATORS who are Radio Amateurs — JOIN "Flying Hams' Club". Non-Profit organization. Write IARS Inc., Box 385, Bonita, CA 92002.

General Ticket? If I did you can. Eighteen pages of hints and tips covering code, theory, taking the exam. $1.20. For beginners and worry-warts. WBØ PTM, 516 9th Ave., Brookings, SD 57006

Need — 100 or so surplus QSL cards. I make poster QSL displays for local library, schools, etc. Bob Leach, W4OWI, 6710 Park Blvd., Pinellas Park, FL 33565.

KW plus amp w/hvy duty pwr supply. **AM** mod w/solid state rect. 3-813's. Many xfmrs - chokes cond. etc. $75 or ? W6IKD, 805-927-4604.

Coming soon from Advance Communications - 600 watt output 6-meter amplifiers, under $500.00. Drive power 5-20 watts. Write for more information. 1778 Adams Rd., Loveland, OH 45140.

Heath HA-14 KW linear, AC supply, $140; Two T-18/ARC-5 transmitters for 160, unmodified, $16 each; LM-10 (late BC-221) calibrator with modulator, calibration book, AC supply, $30. W2BP, 101 Collins, Pleasantville, NJ 08232

BRAND NEW CARTRIVISION COLOR VIDEO RECORDER-REPRODUCER ELECTRONIC UNIT. Contains power supply with adjustable, regulated outputs of ±10 to ±18 VDC. (±15 VDC @ 1½ amps) Third output is 10 VDC at 3 amps. Perfect for CMOS, TTL, Op-amps and MICROPROCESSORS. Contains over 900 parts with extremely long leads. Includes 182 transistors, ICs, diodes, and FET's, numerous resistors, capacitors, crystals inductors, varicaps and delay lines. (One 63.5 microsecond, precision, quartz, acoustically coupled delay line which stores one line of TV.) Transistors will operate in HEATHKIT TV's. Schematics and semiconductor cross reference supplied upon request. $19.95 + $1.50 shipping. 50¢ for brochure. Madison Electronics Company, Inc., P. O. Box 369, Madison, Alabama 35758. Money back guarantee.

Licensed amateur in the Bellevue or Seattle area wanted for employment in assembly and testing in our factory. We manufacture low-pass filters, telegraph keys, phone patches and other items. Wm. M. Nye, 1614 130th NE, Bellevue, WA 98005. (206) 454-4524.

Discounts —KLM, Larsen antennas—write. Bearcat scanners: BC3L, BC3H—$104.95, BC3H/L $120.95, BC4—$135.95. Regency ACTR 10 H/L/U — $129.00. Tennelec Memory Scan 2 — $269.00. We pay shipping. Shipped within 24 hours. NJ add 5% tax. E. J. Narwid Electronics, 61 Bellot Rd., Ringwood, NJ 07456

TELETYPE MACHINES 15's and 19's, $25 up. C.B. Goodman, 312-752-1000, 5454 South Shore, Chicago, Illinois 60615.

MULTI-BAND HF ANTENNAS. In just over a decade, Mor-Gain has produced more than 15,000 HD-type multi-band HF dipoles. No-trap, no-coil, no-stub design yet half size: 66' overall on 75M, 36' overall on 40M. 2 KW PEP rated. Ask your distributor or write us for full information. MOR-GAIN, 2200N So. 4th St. Leavenworth, KS 66048.

QSL samples. Large assortment including Bicentennials. Send 50¢ (refundable against order). Castle Press, Washington, NJ 07882

COLLINS 351D-2 Mobile Mount for **KWM-2,** unused $40. 1000 kHz HC6/U metal holder crystals $2.50. Bird Termaline dummy loads: 5W $7.50, 20W $12.00, 50W $17.50, 80W $22.50. All UPS paid. Offering $25 for USM-16 Interpolation Oscillator Unit. Trade complete M-28 KSR for M-35 typing unit. W5KE, 5905 NW 42nd, Oklahoma City, OK 73122.

RTTY—NS-1A PLL TU (RTTY Journal 1/76). Improved version, AFSK, FSK. Wired/tested $29.95 ppd. SASE for info. Nat Stinnette Electronics, Tavares, FL 32778.

25th DAYTON HAMVENTION at HARA Arena, April 23, 24, 25, 1976. Technical forums, exhibits and huge flea market. Program brochures mailed March 8th to those registered within past three years. For accommodations or advance flyer, write Hamvention, P.O. Box 44, Dayton, Ohio 45401.

HIGH SCHOOL TEACHER WANTED. Science teacher with an amateur license to sponsor ham club. Call Burroughs High School, (714) 375-4461, Sierra Sands Unified School District, Ridgecrest, CA 93555.

Tompkins County Radio Club Second Annual Auction Saturday, April 3, 1976. Watch this space for further information.
(*please turn to page 37*)

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