Worldradio

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1982 International DX Convention

(DX Convention photos by Dick Fleming, WA6POC)

This is truly the Mecca for the true-blue DXer. Ths year's mid-April event was the 33rd annual gathering of those who trod the continents to give out rare contacts, and the worthy recipients of such.

Big guns and little guns rub shoulders for two days of slide shows, awards, handsome prizes, dining and hospitality-room congeniality. Open forums about DXing and contesting let everyone speak their piece about the controversial issues.

The famous and soon-to-be famous are there reliving the past and plotting the future. Facts, rumors, plans and hopes all swirl about. Old friendships are renewed and new friendships are kindled.

The 1982 event was sponsored by the Southern California DX Club. Next year's bash will be conducted by the Northern California DX Club and the one-upmanship of trying to outdo the rival club with a better show continues.

As soon as the dates are definitely set for 1983, they will be announced here so you can mark your calendar. As there are many who have attended 20 or 30 of these shows, you can see it is something that ranks as, "Not to be missed." See you in Visalia next year? □

Fernando Fernandez, EA8AK (left) — top phone station worldwide, and Dick Norton, N6AA — top CW station worldwide in the CQ Magazine contest, receive their awards at DX Convention.

DX Forum

John Minke, N6JM

One of the main events of the annual Visalia DX convention is the DX Forum, this year chaired by Jim Rafferty, N6RJ. Jay Holladay, W6EJJ — the Southwestern Division ARRL Director — was introduced and presented the latest ARRL happenings. Jay reminded the group that the deadline for comments regarding the 20-meter phone band expansion was 1 July. He suggested that both California senators be contacted regarding the early use of the 10 MHz band as 39 other countries are already using it. Both of the California senators are on the committee.

Ellen White, W1YL, who writes the "How's DX" column in QST outlined the current scope of her column covering the early days of DXing and gave a preview of her June column.

Hugh Cassidy, WA6AUD — DX Editor of CQ — was also introduced and gave his words of wisdom. Cass had published his *West Coast DX Bulletin* for 11 years, created soon after the demise of the *West Gulf DX Bulletin.*

Other DX editors were also introduced and included Chod Harris, VP2ML, the new DX Editor for 73; Harvey McCoy, W2IYX, editor of *The Long Island DX Bulletin;* Rod Dinkins, AC6V and Mike Hudgins, W6YQ, bulletin editors of the Northern and Southern California DX

(please turn to page 5)

'MAYDAY' off coast of Baja California

Davida Strauss, NI6X

It was just one of those things that happens so fast you don't think about it till afterward. I was on my boat (my home) Sunday afternoon (4 April 1982) listening to the Maritime Mobile Service Net on 20 meters (14.313 MHz). I decided to hoist my half-wave dipole antenna since my Hustler mobile verticle whip always seems to leave something to be desired in the signal strength department. Once in place, I was anxious to compare the antennas. First thing I heard on the dipole was a "MAYDAY" from a vessel off the coast of Baja California!

It was immediately obvious that Net Control (Bud Atkinson, W5YLP) needed assistance from a relay station in San Diego to call the U.S. Coast Guard. Hearing no response, I grabbed the mic of my Yaesu FT-707 and declared, "NI6X — San Diego, go ahead."

The report was of a 25-foot wooden hull vessel, *Gusto*, that was sinking. Two people aboard (husband and wife) had abandoned their boat and taken to their inflatable life raft. Weather was severe with seas running to 15 feet and winds to 35 knots. Their position was reported as 29° 25′ N., 115° 11′ W. This translated to roughly 200 miles south of San Diego, just four miles or so off shore — a position 10 to 15 miles south of Punta Conoas.

The shoreline in that area consists of treacherous cliffs not suitable for any landing, especially under the existing weather and sea conditions. I told the net to "stand by" and called the Coast Guard in San Diego (295-3121) and told them of the situation and requested that they come up to monitor and transmit on the net frequency, which they immediately did.

Since the information that reached the net was initially relayed by an amateur (Eric Thuesen, KA7JEY) sailing in the area who had heard the distress call on his marine VHF channel 16, the Coast Guard needed more information. Net Control acted as a relay between KA7JEY and Coast Guard San Diego.

These things always seem to take so long. Confusion started to replace order as members of the net questioned the rescue efforts. I again called the Coast

(please turn to page 4)

Dayton Hamvention award winners

Robert McKay, N8ADA

Robert Roettle, W8UNV, chairman of the Dayton Hamvention Awards Committee, announced the recipients of the year's achievement awards:

The Amateur of the Year Award goes to Robert G. Heil Jr., K9EID of Marissa, Illinois. Nominated by Tania Miller, WB9TKC, Bob exemplifies the best in Amateur Radio. He is indeed a "ham's ham." A mover and a doer, Bob is a superb technician, organizer, author, musician, community leader and humanitarian. One runs out of words in describing what he has done for Amateur Radio in general and southwest Illinois in particular.

Founder of the Marissa Amateur Radio Club — a club of 180 members in a town of 1,500 people — he has promoted Amateur Radio to its fullest. Almost every amateur in the area has benefited from Bob's advice, help and assistance in obtaining their licenses, building or fixing equipment, and by his unbounded enthusiasm for Amateur Radio.

He built and put in operation one of the finest and most advanced repeater

please turn to page 3

FCC grants one-year grace period

Effective 20 April 1982, a one-year grace period will be allowed for amateur operators who want to convert their secondary station call signs to their primary station licenses. The FCC will not renew secondary stations as such, but will transfer secondary station call signs to primary station licenses if the licensee applies for renewal either before, or within one year after, the secondary license expires.

This changes Private Radio Bureau policy, which previously did not allow amateurs to recover secondary call signs after they expired. □

World Radio History

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Worldradio (USPS 947000) is an international conversation. You are invited to take part. Our newspaper is written by its readers.

Our goal is to be a valuable resource of ideas and experiences beneficial to the Amateur Radio community. We publicize and support the efforts of those who bring the flame of vitality into this avocation.

Our readers are participants — an alliance of active radio amateurs who are concerned with reality, who use radio as a communications tool. We ask your cooperation in helping us develop the skill, quality and full potential of Amateur Radio.

We are positively-oriented. We print all the news of this great activity, and particularly desire an input of stories dealing with the dramatic, the personal and humanitarian uses of Amateur Radio.

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YLRL Convention '82

The YLRL's (Young Ladies Radio League) 9th International Convention is attracting YLs from all over the world and a total attendance of well over 200 is anticipated. The convention is to be held in the Virginia suburbs of Washington, D.C., 18-20 June. A good deal of emphasis is being placed on sightseeing in the nation's capital.

Activities get off to a technical start on Thursday evening when "Bip" Bachman, W6BIP will make a presentation on "Simple Methods Used to Reduce HI-FI, TV, Radio and Telephone Interference." There will be a YLRL Forum Saturday morning and Lenore Jensen, W6NAZ will be principal speaker at the YL luncheon. There will be more business sessions in the afternoon and a YL/OM banquet Saturday night when FCC Commissioner Anne P. Jones will be the keynote speaker.

Sightseeing gets under way on Friday morning with a tour of the White House, capitol building, and various museums of the Smithsonian Institution, or a tour to the Goddard Space Flight Center in Greenbelt, Maryland. OMs will tour Goddard on Saturday while the YLs are involved in the convention. On Sunday there is a cruise down the Potomac River to George Washington's mansion at Mount Vernon. For those who can stay over Monday and Tuesday, there will be tours of the Pentagon, Department of State, VOA and FBI. A recommended schedule of self-guided sightseeing for a full week is being provided.

YLRL was organized in 1939 and now has a membership of over 1,500 YLs throughout the world. Registrations to the convention have been received from 32 states in the United States and several provinces of Canada. DX members are expected from Poland, India, Japan, Sweden, Netherlands, Germany, England and Bermuda.

The convention will be held at the Crystal City Marriott Hotel in Arlington, Virginia. Registration fee of $20 includes the YLRL Forum and luncheon. The banquet will be another $20. OM registration of $20 includes the Goddard Tour and luncheon on Saturday. Registrations will be accepted through 1 June. For further information, send SASE to YLRL Convention '82, 2012 Rockingham St., McLean, VA 22101. □

Foothill Electronics Museum

Exhibits of the Perham electronic collection. DeForest papers, early tubes, transmitters and receivers, microwave and semi-conductor technology. Foothill Community College, Interstate 280 at El Monte Road (West), Los Altos Hills, California. Thursdays and Fridays, 9:00 a.m. to 4:30 p.m.; Sundays, 1:00 p.m. to 4:30 p.m. Other hours and groups by appointment. Donation. (415) 948-8590, Ext. 383.

Book for disabled

ARRL Program for the Disabled is a new booklet available from ARRL Headquarters, 225 Main St., Newington, CT 06111. To obtain a copy, send a 9-by-12-inch SASE with 88 cents postage.

The booklet lists various services and organizations of interest to the handicapped as well as sources of Amateur Radio material other than in printed form. It is particularly complete with respect to help for the blind. □

Info sought on Vibroplex units

Richard W. Randall, K6ARE

When the Vibroplex Company was in New York City, its records were destroyed by fire. There is no way for the company to determine the year of manufacture by serial number on their units. I would appreciate receiving information from anybody regarding data they may have in their possession regarding the serial number of Vibroplex units and the year of manufacture.

This information could be determined from personal knowledge, records you may have or if the unit was purchased new, then the year you purchased it and the serial number would give a general idea of the year of manufacture.

Any comments would be appreciated. My address is 1263 Lakehurst Rd., Livermore, CA 94550. □

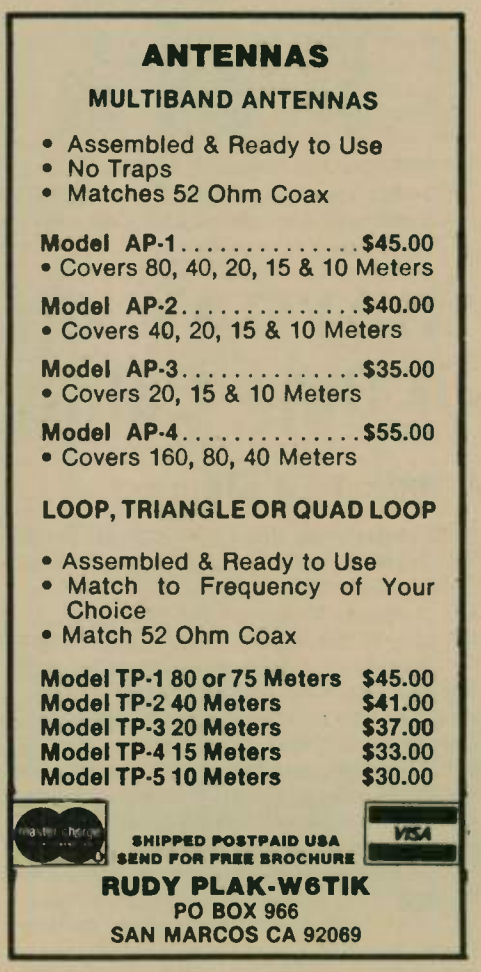
Kansas Amateur Radio on tape

Kansas Amateur Radio (KAR) — a magazine for Kansas amateurs — is now available on cassette tape. KAR is published four times a year and is recorded on tape and distributed to interested blind and visually impaired amateurs.

To establish a tape subscription, send $3 to Steve Bauer, KC0HF, 3120 W. 9th, Wichita, KS 67203. This one-time fee covers the cost of two cassette tapes and mailing containers. The mailing containers are designed so the tapes can be returned for reuse. □

New ATV book released

A new book/manual entitled *Everything You Always Wanted to Know About Amateur Television* but were afraid to ask* by Mike Stone, WB0QCD was released 15 April. The 100-page book covers everything from how to get started on ATV to serious video theory and transmission procedures. The $9.95 book is published by A5 ATV Magazine, P.O. Box H, Lowden, IA 52255. ($2.50 should be included for postage and handling.) Dealer programs are available. □



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World Radio History

Dayton

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systems in the country. He is a driving force on 10-meter FM in this country. His articles and book on the subject as well as his inexpensive CB conversions have opened the door to many. The list of accomplishments goes on and on. The Dayton Hamvention salutes Bob Heil, the Amateur of the Year.

The Special Achievement Award goes to Bruce L. Humphrys, K0HR of HANDI-HAMS, Golden Valley, Minnesota. Nominated by Sister Alverna O'Laughlin, WA0SGJ, Bruce was recognized for his contributions to the HANDI-HAM program.

He transformed a local project serving 50 people to an internationally acclaimed operation serving 3,000 handicapped individuals. Bruce's ability to raise the necessary donations has allowed the expansion of the HANDI-HAM program into all states and 25 countries. Thousands of people's lives are better due to Bruce's activities. What better acclamation could one receive? The Dayton Hamvention Committee is proud to recognize Bruce Humphrys for the Special Achievement Award.

Both amateurs will be the guests of the Dayton Amateur Radio Association during the hamvention. These coveted awards were presented during the grand banquet at the Dayton Convention Center on 24 April 1982. □

Stanley Phillips (left) presents the Amateur of the Year Award to Bob Heil, K9EID at the 1982 Dayton Hamvention.

Bruce Humphrys, K0HR (*World-radio's* HANDI-HAM columnist) won the Special Achievement Award at the 1982 Dayton Hamvention.

Novice/Technician CW net guide

Mike Adams, N4EVS has prepared and published a nice guide which lists Novice and Technician CW nets. The publication has information on nets which specialize in slow-speed CW and includes nets from all sections of the United States.

If you would like a copy of this guide, just send a self-addressed, stamped envelope (SASE) to Mike Adams, N4EVS; Rt. 4, Box 764; Panama City, FL 32405. Mike is active on QFNS, The All Florida Slow-Speed Net which meets at 8:00 p.m. nightly local time on 3,715 kHz.
—North Florida ARS, Jacksonville, FL □

Indiana slow-speed CW traffic net

The Indiana Code Net (ICN) is a slow-speed CW traffic net which meets daily on 3708 kHz at 0015Z. The Net operates at about 7 wpm. Since the net is in the Novice portion of the band, any amateur may check in. There are Extra Class and Novice Class checking in now.

The ICN is designed to fulfill four basic needs of Amateur Service in Indiana:

1) Handling of public service message traffic on a daily basis.

2) Promotion of good operating practices and increasing code proficiency.

3) Training of operators in CW net procedure.

4) Fellowship between radio amateurs in Indiana.

— Indianapolis Repeater Assoc., Greenwood, IN □

REMINDER.....

INCLUDE FIRST AND LAST NAMES WITH CALL SIGNS.

New FAX Net

A new Amateur Radio Facsimile Net/group is meeting weekly at 7.290 MHz under direction of Robert Roehrig, K9EUI of Batavia, Illinois. The net follows the FSTV Net that meets at 1700-1800 GMT.

The purpose of the net is to set standards to be used for HF Facsimile transmissions, discussion of equipment availability and modifications for fsk transmissions of the F4/A4 signals. The FCC recently approved the use of FAX and SSTV in the General portions of the HF bands (Docket 80-252) initiated by Robert Roehrig (FAX) and Henry Ruh (SSTV).

A large FAX series of articles began in the May issue of A5 ATV Magazine sponsored by Mr. Roehrig.

Further information on Amateur Facsimile may be obtained by writing Robert Roehrig, K9EUI, 314 South Harrison, Batavia, IL 60510. Please include SASE.

Worked NN3SI?

That's an unusual call, and if you've heard it you've probably tried to work the station. This call is assigned to the Amateur Radio station located in the Nation of Nations Exhibition at the National Museum of History and Technology of the Smithsonian Institute, Washington, D.C. The station keeps a regular schedule at 1900 UTC on 28.640 MHz Tuesdays. It demonstrates Amateur Radio activities to the visiting public, and occasionally has a guest operator. The regular operator is Joe Fincutter, W3IK.
— Conejo Valley ARC, Newbury Park, CA □

Tower ordinance defeated

Jim Lee, WB0PMT

St. Paul amateurs and the entire Twin City amateur community owe a debt of gratitude to two local amateurs. An ordinance had been pending before the St. Paul City Council relating to radio and television antennas which would have restricted Amateur Radio towers to a height of 55 feet.

Glenn Bartoo, W0NG and Tony Wanschura, KM0O became aware of this potential ordinance early this fall, and since that time worked diligently to defeat the proposal. Armed with ARRL materials, Glenn and Tony carried on lengthy, and at times frustrating, discussions with members of the Planning Commission, Zoning Commission and City Council. Although St. Paul officials were for the most part helpful, at times it seemed that the battle was lost.

All of this culminated when the Zoning Commission concluded that a demonstrated need for the height limitation had not been shown. Accordingly, any height limitation for Amateur Radio and citizens band antennas was removed from the ordinance.

Appearing with Glenn and Tony at the hearing were Bill Davies, W0YCR; Frank Mullaney, W0LC; and Barry McGrath, AB0T.
— Ground Wave □

Antenna victory in Chicago

Chicago amateurs have won an antenna restriction fight. Jim O'Connell, W9WU organized Chicago amateurs to fight a proposed ordinance which would have prohibited the installation of radio communications towers except as part of a planned unit development. At the City Council meeting of 25 February, the bill's original sponsor introduced an amendment which would exempt Amateur Radio antennas and towers. Apparently, another potentially devastating precedent has been averted. —Excerpted from WLR
— Argonne ARC, Argonne, IL □

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FCC eliminates two rules sections

At an Open Agenda meeting on 1 April 1982, the FCC eliminated two sections of the Amateur Regulations, as part of an ongoing review of rules to prune out those which are no longer necessary.

Section 97.71 required an adequately filtered DC plate power supply for transmitters operating below 144 MHz. Section 97.74 required a means of measuring frequency independent of the transmitter itself. Cancellation of these two rules represents a change in regulatory philosophy from how to observe the rules to what the result should be. Other rules still in place require that an amateur signal be clean and that it be in band.

The same meeting adopted a Notice of Proposed Rulemaking which would provide new frequencies for model control in the 72 to 76 MHz range. □

Antennas and zoning

A new pamphlet — entitled *Answers to Your Questions About Local Antenna Regulations* and directed at the layman to assist him in preparing for a zoning board or property owners committee hearing — has just been completed and is available free of charge to ARRL members. Write to ARRL, 225 Main St., Newington, CT 06111.
— Clark County ARC, Vancouver, WA □

ICOM, Kenwood users nets

An ICOM users net meets each Saturday on 14,320 kHz at 1600Z for an exchange of information. A Kenwood users net meets each Saturday on 14,320 kHz at 2000Z for an exchange of information. All interested parties are encouraged to listen. These nets have been in existence for three years — join the information exchange. Rob Pohorence, N8RT is NCS. His QTH is Port St. Lucie, Florida. □

Dungeons & Dragons Net update

The time, date and frequency have been changed for the Dungeons and Dragons Net. It is now Sundays at 2100 UTC at 14.290 ± QRM. Net control is still Mike Frost, KA9JOX, but John Murphy, KA9CTY may be net control also. Ten meters will not be used any more because of summer approaching. If nothing is heard at 14.290, check 14.310.

For further details, write to: Mike Frost, KA9JOX, Box 1008, Riverside, IL 60546. □

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World Radio History

The Contest Forum

Norm Brooks, K6FO

"All of the Advisory Committees of the ARRL will be reorganized this June," said Alan Brubaker, K6XO, member of the ARRL Contest Advisory Committee. He was one of the speakers at the Contest Forum at the 1982 International DX Convention at Visalia, California on 17 April 1982. He explained that all of the Advisory Committees now have a representative from each of the 10 call areas. The new format will provide each committee with a representative from each of the 16 ARRL Divisions.

Alan said the Contest Advisory Committee had received a lot of input from Alaska amateurs. They are suggesting they be considered a state of the United States along with the other 48 contiguous states, rather than a separate country. Those Alaskan amateurs who would like to make this change object to not being able to participate in "United States only" contests. A straw vote of the 150 or so amateurs present at the forum showed a 5 to 1 preference to leave Alaska (and Hawaii) as is. However, Alan said ARRL headquarters is conducting a survey of active Alaskan and Hawaiian amateurs and will make a decision later.

In another matter brought before the group, it seems there is an amateur station owned by an Extra Class amateur that was operated by a General Class amateur in a recent contest, as a guest. The Extra Class call sign was used, and the station operated in the Extra Class portions of the bands. The score was claimed as "single operator."

Since the Extra Class station owner was present as a "control operator" as required by FCC rules, some people feel the score should compete as "multi-single." Others felt that even though the Extra Class operator was there, he did no operating at all and the score was amassed from the skill of the General Class operator; thus, the score should be "single operator." Others said "hey! it was the better *station*, not necessarily the skill." In any event, all this is still unresolved.

Larry Brockman, N6AR, CQ Contest Committee Chairman — after being introduced — said he was glad to speak to such a *friendly* group. (Laughter.) As it turned out, it *was* a friendly group, as no serious controversial issues were raised.

Larry announced that Burnell "Bernie" Welch, W8IMZ has resigned as head of the WPX Contest, effective at the end of processing logs for this contest. There have been many complaints about how WPX logs have been handled for the past four or five years. CQ Magazine is looking for a volunteer group of four or five people, with a leader, to run the WPX contest program.

The CQ Contest Committee has had three resignations. New members are John Yodis, K2VV, member of the Yankee Clipper Contest Club; Ed Moody, N3ED of the Frankford Club; and Joe Tyree, N6TR of the Southern California Contest Club. Other members of the committee who will continue to serve are: James Sullivan, W7EJ; Glenn Rattman, K6NA; Terry Baxter, N6CW; Reginald Toumi, N6SV; John Battin, K9DX; Winfred Morris Jr., AD6C; James Toohey, K2SSS; Doug Zwiebel, KR2Q (WB2VYA); Gene Walsh, N2AA; and John Dorr, K1AR.

It is anticipated there will be some rules changes in the CQ World Wide DX Contest in an effort to stimulate participation by JA amateurs. JA activity has fallen dramatically over the last few years, yet it is known that JAs are avid certificate chasers.

There will be a 1982 disqualification rule change that will *not* be retroactive. If an amateur is disqualified for any *major* reason, he will be disqualified from any CQ awards for one year. If he is disqualified a *second* time in a five-year period, he will be disqualified from any CQ awards for three years.

Another contemplated change is in the trophy program. It is proposed that an amateur should be able to win a perpetual trophy any number of consecutive years, instead of every third year as now. There will be a one-year moratorium on this proposal to get reports of agreement from the trophy donors. If you are a trophy

(*please turn to page 12*)

Larry Brockman, N6AR, CQ Magazine Contest Committee Chairman, who chaired the contest forum, and Dick Norton, N6AA, who wins the contests.

Bits and pieces of the DX Convention

John Minke, N6JM

Several presentations supplied with slides were available at the 1982 Visalia International DX Convention including one movie. The recent KP2A/KP1 DXpedition to Navassa Island was presented by Terry Baxter, N6CW, followed by the movie that was narrated by Jin Fukuta, JA8BMK, which detailed the XZ5A and XZ9A installations in Burma. Impressive was the tower used at XZ5A, the natural home-grown kind. Running concurrent was the recent DXpedition to Niue and Samoa, which was presented by Bruno Bienenfeld, AA6AD.

During the banquet, Fernando Martin, EA8AK discussed his DXpedition to Annobon and Spanish Guinea. Fernando at times had the use of an interpreter whenever he expressed his thoughts in Spanish, although at times later on in his talk he would do his own interpreting, which was of great delight to the DXers. Vince Thompson, K5VT then gave his show — the "1981 African DXpedition to TN8, 9U5, S9, 3V8."

During the Sunday brunch, two more slide presentations were given with the first — "Expeditions by Erik" — by Erik Sjolund, SM0AGD. This was about his past J5AG DXpedition to Guinea Bissau in Africa. The Hensons — Carl WB4ZNH and Martha WN4FVU — were present with their presentation of "Uganda Today." □

TCBA members

Tesla Coil Builders Association (TCBA) memberships are now open. Send SASE to TCBA, RD3, Box 181, Glens Falls, NY 12801. □

'MAYDAY'

(*continued from page 1*)

Guard and relayed to the net that a search was being organized and that the net had done all that was possible at this time. Regular traffic was now again being handled. Everyone went to sleep praying and hoping for the best. I woke many times during the night and listened to the net frequency hoping for some news — nothing came.

By 6:00 a.m. the following morning, news was being passed that both people had been picked up by a U.S. Coast Guard helicopter and that they were safe. What a relief! Personally, it was great being a part of such a valuable service — thanks to everyone, it had a happy ending.

A footnote indicates that the rescued boaters are now studying for their Amateur Radio licenses and will not set sail again until they have them. □

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World Radio History

DX Forum

(continued from page 1)

Clubs; and the editor of the *National Contest Journal*.

Jesse Bieberman, W3KT, Atlantic Division ARRL Director, spoke for the DX Advisory Committee and requested input to the committee. Jim N6RJ then provided the latest update on the DXAC such as that Rule 12 proposed modification. Over 300 letters have been received on the matter with over 50 percent requesting no change. The feeling is that all legitimate contacts should count. There will be no recommended change from the committee. Possible deleted DXCC countries include Saudi Arabia/Iraq Neutral Zone (8Z4), Bajo Nuevo (HK0), and Serrana Bank (KS4).

QSL cards for KF1O/CE0X, for the purported San Felix DXpedition will not be accepted as the operation could not be substantiated. Cards for XZ5A and XZ9A in Burma is still a dead issue. The merger of The Gambia (C5) and Senegal (6W8) to become the new country of Senegambia was mentioned. As no details have been received, it will not yet be counted as a new country.

The present turn-around on DXCC application processing is now nine weeks. The number of countries on the DXCC list is now 318, with the recent deletion of Kamaran Islands (VS9K).

The forum was then opened for questions and comments from the floor. One of particular interest was that of the Honor Roll. Some individuals felt it should be eliminated as it was causing more damage to DXing than what it was intended for. Also, another reason for removing it was that there are already too many on the Honor Roll. However, it was quickly pointed out that there are that many more amateurs and DXers now than there used to be. Actually, getting on the Honor Roll is a competition with one's self as a minimum number of DXCC countries is required to get on the listing. A request was made for all Honor Roll members to stand and the number of those standing was indeed very impressive. Of course, old Mr. DXCC — Don Wallace, W6AM — was there on top of all.

The 20-meter phone band proposal as presented by the FCC was discussed. No one cared for the proposal as presented by the commission. Finally, the 10 MHz band was discussed with mention that no contests or awards programs will be involved with this band. It is a shared band with Amateur Radio as a secondary user.

Jim Rafferty, N6RJ conducted the DX Forum.

Contact Worldradio for hamfest prizes.

Among the many overseas amateurs who attended the Convention was Jin Fukuta, JA8BMK of XZ5A fame.

Fred Laun, K3ZO, HS1ABD and many others

Phil Weaver, VS6CT

Dinner speaker Dr. Vince Thompson, K5VT showed slides of his DXpeditions to TN8, 9U5, S9 and 3V8.

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World Radio History

Uganda today

Norm Brooks, K6FO

"A lot of people think we were brave," said Carl Henson, WB4ZNH, "but I think we were more accurately 'foolhardy'." He was referring to the trip he and his wife Martha WN4FVU made to Uganda in October 1980.

They arrived at Entebbe Airport in the middle of a civil war — right after the overthrow of Idi Amin. They had difficulty traveling the several miles from the airport to the Kanepala International Hotel. There were roadblocks at almost every turn, and the soldiers persisted in opening their luggage. The taxi driver had to translate for them as the soldiers purported to know no English. However, after one particularly difficult translation session, the soldier asked, "Do you have cigarettes?" in perfect English. Fortunately, they did.

They hired a local man to help them install the beam antenna on the roof of the hotel. Even though they were at a critical installation point, the man insisted on leaving for home because he was afraid to walk on the streets after dark. Machine gunners roamed the streets after dark. There was machine-gunfire every night, and bodies of victims were found in the streets every morning.

The hotel had an employee whose job was to guard the roof. During the civil war, they were afraid helicopters might land. The hotel was full of government employees living there, presumably free. The government simply tells the hotel, "You will house these employees," and the hotel complies.

The roof guard turned out to be a problem. Whenever Carl wanted to turn the beam to long-path, he had to find the guard to unlock the door. The trips to the roof had another effect. The hotel housekeeper knew the Hensons wouldn't let the maid into their room, and with the trips to the roof, they thought Carl was a spy!

The Friday before the contest, the housekeeper brought some officials to the room. Carl and Martha did their best to explain their Amateur Radio mission, and showed their official papers giving them permission to operate. The officials left to bring back others, presumably their supervisors. More explanations. They finally left one of their party as a guard, who turned out to be a pretty decent fellow. The Hensons demonstrated the radio to him and he seemed impressed.

Carl and Martha Henson (WB4ZNH and WN4FVU) told of their DXpedition to Uganda at the DX Convention.

Finally, however, a larger group of people arrived with soldiers armed with machine guns. They told the Hensons that they were believed to be spies and that they could not operate. The soldiers confiscated their radios and passports.

Things looked bad. The contest had started and no radios. The next day, however, things were better. They brought the radios and passports back. Carl and Martha were able to get back on the air for the last half of the contest and give out valuable WB4ZNH/5X and WN4FVU/5X contacts.

The hotel was in a sorry state of disrepair. The ventilation pipes didn't work, so all windows and doors had to be kept open all the time. The water ran only two or three hours a day. They filled the bathtub with water, when available, and then used the pail from the trashcan to flush the toilet. There was no soap. The sheets were so dirty that the folds were black. Garbage was thrown into the yard and eaten by vultures. There was one positive item among all these negatives — the electric power was reliable. It was on all the time and there was no dimming.

During their week there, Carl left the hotel only three times. Twice to go to the police station and once to the Sabena airline office to verify the trip home. "I couldn't get home quick enough, to put this nightmare behind me," he said.

The trip home was uneventful. They were treated nicely and allowed to take pictures at the Entebbe airport. The airport still shows bullet damage from the famous Israeli raid. Local people show great admiration for the Israelis for having made that raid.

Carl showed some sunset pictures with strange black clouds. "Those are bats," he said. "Large swarms of bats. You've seen horror movies with bats so big that their wings went flop, flop, flop. Now, everyone knows bats are little creatures whose wings go flitter, flitter, flitter. I can assure you that *these* bats go flop, flop, flop!"

Would Carl and Martha go again? Since they knew all the names of the people they dealt with, Carl called to find out if he *could* go back. He found out they all had either fled the country or were dead!

"It's a lovely country with wonderful people, but a lousy government," he said. "They don't know how to exist with a two-party system. They settle their party differences with machine guns!"

Carl illustrated his talk with excellent color slides. □

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1981 CQ WW expeditions to Niue

Norm Brooks, K6FO

I was a few minutes late from lunch and had to enter the darkened room after the movie had started. I knew I was in the right room because a tape player was making with a jungle beat. And the moving pictures were about two trips to Niue and Samoa, narrated by Bruno Bienenfield, AA6AD.

The Northern California DX Club had two groups make the trip. The first group was Gary Cervo (WB6EXW) 5W1DL, ZK2WW; Rubin Hughes (WA6AHF) 5W1BT, ZK2ZZ; and Richard Hudgins (KB6JK) 5W1DM, ZH2JK. They were on Niue for the CQ WW Phone contest 24 and 25 October 1981. The "Second Wave" consisted of Cameron Pierce (K6RU) ZK2RU; Ron Panton (W6VG) ZK2VG and Bruno (AA6AD) ZK2AD. This second wave gave us CW contacts in the contest of 28 and 29 November 1981.

We were shown how the antennas were pre-assembled, tuned and then packed for travel. We saw all of those lucky DXpeditioners smilingly get aboard the big aircraft with strange airline names, and strange sounding airport signs like "Faleolo Airport — Western Samoa" and "Hanan International Airport."

Then they assembled those same antennas in what appeared to be a park overlooking the ocean. It turned out to be the grounds of the hotel at which they stayed in Niue. One glance at the site would make a DXer drool. The cliff-edged site overlooked the sea in more than 180 degrees of azimuth, pretty much assuring a lot of DX contacts.

After the contest was over, the movie let us share a sightseeing trip on the island. There were a lot of caves to see, as the island is of volcanic origin. The island roads we saw were narrow, and the vegetation mostly jungle.

The day before they left, the group was surprised with a party put on by the hotel manager.

Back to the Faleolo Airport on Western Samoa. We were treated to a short drive around the city. We saw tall palms, clear skies, grass shacks, and high and low waterfalls. We saw the famous Pirates' Cove, where many movies have been made. We saw women washing clothes at the side of a stream.

(*Editor's Note: CAUTION — this next paragraph is rated X. Parental Guidance is suggested!)* We saw the islanders too. The young men would pose for the cameraman in "macho" poses, brandishing daggers for example. One beautiful young lady was seen running with nothing but a towel to hide behind. Two others did a graceful hula dance and bathed in the river, wearing nothing at all!

Bruno and his fellow travelers hosted the movie. To keep everything authentic, they wore Polynesian outfits (brightly colored shirts). □

Here's how to go 5-band HF mobile.

World Radio History

The FCC Forum

Norm Brooks, K6FO

"Deregulation is now the key word at the FCC," declared John B. Johnston, W3BE, Chief of the Personal Radio Branch of the FCC in his forum at SAROC, 3 April 1982.

The budget

As budget crunches go into effect, we radio amateurs will see less and less FCC regulation all along the line. For example, FCC has discontinued all plans for publishing the Amateur Radio rules, Part 97, in booklets by themselves, as they have done in the past. Now, if you want a copy of Part 97, you must buy a government publication — *Code of Federal Regulations — Title 47, parts 80 to end.* This is a fairly thick volume published annually in October. It is available from the Government Printing Office for $8.50. Of course, the amateur rules are only a small part of that volume, but that is the only way you can now buy them.

Dockets

Johnston told the 100 or so assembled SAROC attendees of the status of various dockets which are or had been before the Commission. The proposal for higher effective radiated power for 6- and 10-meter repeaters is now closed. The Commission has all the comments it needs. The docket on beacon operation is still open, and comments are still invited.

The docket for expanding the 20-meter phone band is still open — comments are due by 1 July 1982. The proposal for additional digital codes above 50 MHz will be closed by the time you read this. Similarly, the docket on spread spectrum techniques is closed, even though such experimentation is still going on under special authorization.

Volunteer assistance

The cutback in funding of the FCC will probably affect the Amateur Radio Service the least because there is offsetting legislation in the offing. Bills now before the U.S. Senate and House of Representatives will allow amateurs to assist the FCC — on a voluntary basis — with the examination program, with monitoring and with licensing.

Recent accomplishments

What has the FCC recently accomplished in the Amateur Radio Service? In June 1981, the 160-meter band was given back to us. Identification rules were simplified in October 1981. TV facsimile rules were relaxed in February 1982. All of this has been occurring in the direction of deregulation.

The FCC staff is actively reviewing all of the amateur rules to see if they are still necessary, keeping deregulation in mind. Johnston gave us two examples of this kind of activity. An old rule was deleted that required an amateur transmitter to have an "adequately filtered power supply;" this is obviously obsolete. There was another which required an amateur to be able to regularly check the frequency of his transmitter. This goes back to separate transmitters and the kind of equipment where the amateur wasn't often sure he was in the amateur band! More of these outmoded rules will be found and deleted.

Output power testing

Johnston offered radio amateurs the opportunity to help in rulemaking. The Commission is looking for a better way to measure the output power of today's amateur transmitter. The present method (final stage voltage times current) is outmoded, inaccurate and dangerous. Put your thinking cap on and let the FCC know your ideas on this.

Incentive licensing

The Commission recently dismissed a number of petitions which called for frequency privileges for certain license classes. Statistics did not support the notion that additional frequency privileges gave amateurs an incentive toward upgrading. Actually, there was a decline in the number of amateurs, and not much upgrading. In 1975, the Commission started a program of offering call sign incentives, and it started a boom. Apparently, the "status symbol" of a 2×1 or 1×2 call sign has done what special operating frequency segments did not do. Actually, it looks like the 2×1 call signs will soon run out in the 4th call area, and the Extra Class amateurs will be assigned 2×2 calls starting with AA, AB, AC, etc.

Bill Nelson, WA6FQG spoke on RFI at SAROC 1982. Standing next to him is his wife, Rusty.

fre[illegible] — radio interference

Norm Br[illegible]

If you ar[illegible] who is plague[illegible] buzzes and roars[illegible] you would have [illegible] uplift by attending [illegible] RFI at SAROC, 3 Ap[illegible] operator have found that you ar[illegible]ises, have lots of company wi[illegible]ses, headache.

Bill is the author of the cu[illegible] seller," *Interference Handbook*[illegible] uniquely qualified to write such [illegible] because he has 16½ years of experien[illegible] a power company RFI investigator. We radio amateurs are fortunate he put all of those years of experience into his book.

Bill's talk included tape recordings of the sounds of the various types of RFI. As I heard them, horrible memories came back — memories of when those same sounds came out of my own loudspeaker!

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World Radio History

…w to …ght be …ind from …est, but I'm …All I can say is …e your transmitter …Do your neighbors love …breaker-breaker down the …ing a clean rig? If you … yes to any of these questions, … living in a dream world — Utopia. … you're living in the real world and you might as well learn as much as you can about minimizing RFI generated by your transmitter, and how to find RFI emanating from other sources.

My biggest instant … describe the so…cc. able to re…

It's easy to blame the power lines. You can see them. And it is just as easy for your neighbor to blame you; after all, he can see your antennas. It's very likely the RFI is coming from somewhere else and bothering both of you.

Bill told some horror stories of how some people, with no basis in fact, will blame electronic radiating devices for their misfortunes. There was the little old lady who blamed the radiation from her neighbor's amateur antenna for the thread breaking in her sewing machine. Another's pedigreed cat escaped and wandered with the alley cats. When she found out her next door neighbor Amateur Radio operator contacted stations all over the world, she was certain the radiation from his antenna caused her cat to be promiscuous.

In another more technical case Bill related, a neighbor blamed an Amateur Radio operator because broadcast band stations were coming in on channels where they should not. When the set was in the shop it was OK. When it came home it went berserk. Because the amateur had a large antenna, the neighbor was *certain* the amateur was at fault. After a long and careful investigation, it was found a gas pipe and a water pipe in the neighbor's house were touching. When the pipes were separated, the trouble went away. Amateurs have even been blamed for low-line voltage conditions because they allegedly "sucked too much power from the lines."

We saw a slide of typical TVI — a picture torn with black bars. Within the bars were what could be called dots and dashes. "And who uses dots and dashes?" asked Bill. "No wonder radio amateurs are blamed for TVI like this, yet Amateur Radio was not involved in this case."

Cable TV leakage has a fluttering sound. When a joint connector in the CATV plant goes open, the TV signal can leak out. At the same time, an Amateur Radio signal is collected by the cable sheath and can get into the cable. Fortunately, this kind of RFI problem is easy to find.

"No self-respecting amateur will have fluorescent lights in his ham shack" declared Bill. We heard a heavy hum with a hiss. Fluorescent lamps generally bother the broadcast band, with some peaks in the 40- and 20-meter bands. Some of the 8-footers can be heard on 2 meters. If you want to demonstrate this to yourself, go into a supermarket with a radio receiver!

Did Santa bring you an electric razor? And it won't cause RFI problems because it is the charging type? Don't you believe it. There's a little SCR (silicon controlled rectifier) in the charger that can raise a lot of havoc. It can radiate spikes that peak every 40 kHz through the radio spectrum.

Next we heard power line noise. It has a frying, hissing sound. Contrary to popular belief, of all RFI cases it is in the minority.

Heating pads. They have a thermostat that opens and closes at regular intervals. You hear a brp - brrp - brrp etc. This can be confused with the sound of an electric fence. Don't rule out an electric fence if you live in a city. Many dog owners in the city use them to control their dogs. The electric fence sounds like a roar and cycles more slowly than a heating pad, in short bursts at about one second intervals. Bill cautions that if you find an electric fence as an RFI source, don't touch it unless you have insulated gloves. If you step over it, step *high* for obvious reasons!

The next culprit is the doorbell transformer. The older type has a protective thermostat and sounds like a faulty heating pad. Sometimes the faulty doorbell transformer is difficult to find when it is plastered into the wall. The newer type of doorbell transformer doesn't have a protective thermostat. Instead, it has a current limiting device which gives off a puff of white smoke before the transformer goes dead.

TV sets can cause trouble on amateur frequencies. The horizontal sweep oscillator can cause buzzes every 15 kHz in the lower frequency amateur bands. Also, the 4th harmonic of the color burst oscillator comes out on 14,210 kHz. It sounds like someone tuning up and can radiate as far as five miles from the TV set. These are very difficult to find. You simply drive up and down streets until you locate it.

RFI from neon signs sounds like a heavy buzz. This travels considerable distances. Another RFI source in this category is the Heliarc welder, which is especially bad in the 40- and 80-meter bands. It sounds like a buzz with a whine, with on-off intervals set by the welder as he works. Also in the industrial category is the electronic soldering machine. It creates a racket all the way through the VHF bands.

Back home on more familiar territory we have the dimmer switch. This item proves the old adage, "You get what you pay for." The more expensive units have an extra diode and are adequately bypassed and cause no trouble. The "cheapies" create RFI from the SCR they employ. The "fix" here is a .01mfd capacitor across the input and output terminals.

We're all familiar with brush type motors in the household — the mixer,

(*please turn to page 45*)

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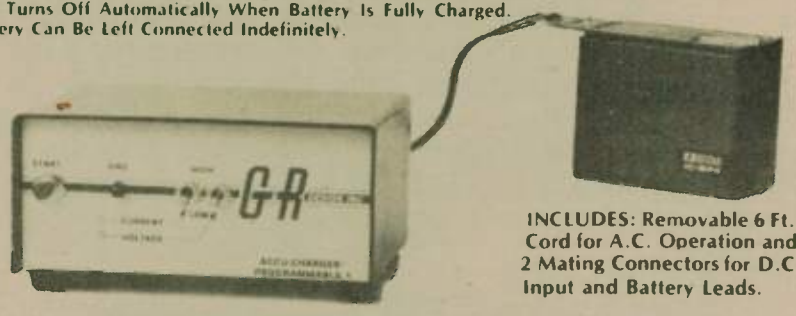

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VSWR — how much can you tolerate?

Peter Onnigian, W6QEU

In a crowded room at the SAROC Annual National Convention in Las Vegas, on 2 April 1982, Lew McCoy — ex-**QST** technical writer and now with **CQ Magazine** — had some choice words of wisdom about VSWR.

McCoy said the modern solid-state ham transceivers will not turn on with VSWR ratios of more than about 2 to 1. However, he stated that a transmatch will correct a mismatch VSWR ratio as great as 80 to 1 and will permit these transceivers to work properly.

While the VSWR matcher makes the line look good to the transceiver, the VSWR still remains in the coax line to the antenna. The higher the VSWR on the line, the higher the line RF loss. McCoy suggested the line VSWR be kept below 4 to 1 on 20 meters and less than 3 to 1 for 15 and 10 meters, as a compromise between RF line loss, antenna tuning and bandwidth consideration.

Lew McCoy developed the monomatcher first described in the October 1957 issue of **QST**. An improved arrangement — now used in several makes of antenna tuners — was developed in 1968. McCoy said these tuners were impedance matching devices, which correct the reactance, then match the resistance.

McCoy, while retired, lives in New Mexico and writes technical articles exclusively for **CQ Magazine**, continuing his expert contributions to Amateur Radio. □

Lew McCoy, W1ICP (right) — former ARRL staff member — has a friendly chat with ARRL General Manager Dave Sumner, K1ZZ.

World Radio History

Special Events...

China Township

Members of the Ford Tin Lizzy Club, North Metro Chapter will be operating from China Township, Michigan on 5 June 1982 from about 1700Z till 0500Z in the General portions of 15 and 40 meters. The call will be N8*BYY* and a special QSL from China (township) will be available for an SASE QSL sent to Box 545, Sterling Heights, MI 48077. □

Stonehenge replica

The Tri-City Amateur Radio Club (W7VPA) will operate a special event station on Saturday, 12 June 1982 from the replica of Stonehenge located near Maryhill, Washington. W7VPA will operate from 1600 to 0100 UTC on or near the frequencies of 3.900, 14.290, 21.390, 28.690 and 146.52. An attractive certificate will be awarded. Send QSL info and $1 to W7VPA, Special Event, P.O. Box 73, Richland, WA 99352. □

'Star-Spangled Banner'

Radio Station WB3KUH will operate a special event station from Fort McHenry, Baltimore, Maryland — the birthplace of "The Star-Spangled Banner" — on 12-13 June 1982. Operation will commence at 1600 GMT. Operation will be within the first 25 kHz of the General and Advanced bands. Both SSB and CW will be used. Novice operation is also expected. Operation will be on 20, 15, 40, 2 and 6 meters.

Stations desiring a special certificate from the event station can obtain one by sending an SASE and their QSO number to: Donald Oakjones, WB3KUH, 1806 Willann Road, Rosedale, MD 21237. □

Strawberry Festival

The Miami County Amateur Radio Club will operate W8FW from the site of the Troy, Ohio Strawberry Festival from 1600Z, 12 June until 0200Z, 14 June. Frequencies will be 25 kHz from the lower end of the General phone and Novice subbands on 10, 15 and 40 meters and 25 kHz from the lower end of the General phone subband on 20 meters.

To obtain certificate, send QSL and either business-size or 9-by-12-inch SASE to: W8FW, Box 214, Troy, OH 45373. □

Grant Wood Art Festival

On Sunday, 13 June 1982, the Jones County Amateur Radio Club will be operating Special Event Station KB0VC from the site of the Grant Wood Art Festival in Stone City, Iowa from 1300 to 1900 UTC on or near 7.235 and 21.370 MHz. The club sponsors the Grant Wood Country Award and will issue this certificate to all amateurs contacting the Special Event Station.

Send your QSL and an award fee of $1 to: Jones County Amateur Radio Club, c/o Robert J. Yanda, KB0VC, Box 87, Anamosa, IA 52205. □

Let Worldradio know what you do in Amateur Radio; many others will be interested in your experiences.

Train robbery

Libertyville and Mundelein Amateur Radio Society (LAMARS) will operate W9HOQ near the site of the largest train robbery in United States history. Approximately $3 million in negotiable instruments and jewelry was confiscated during a brief stopover on 13 June 1924, and all participants in the robbery were apprehended within six months.

Frequencies: Phone — 7.260 14.290 21.375; CW — 7.125 21.150 from 0000Z 12 June until 0000Z 13 June. Certificate for large SASE to: Ted Carlus III, KB9BR or "Big Robbery," Box 656, Libertyville, IL 60048. □

Buffalo Bill's Wild West Rodeo

Help celebrate the 100th anniversary of Buffalo Bill's Wild West Rodeo!

Each year a week-long celebration — "Nebraskaland Days" — is held during the third week of June in North Platte, Nebraska, the home of "Buffalo Bill" Cody. It features the Buffalo Bill Rodeo, named after North Platte's famous resident who started the rodeo as we know it right here in North Platte. And this year is even more special as it marks the 100th anniversary of the beginning of that rodeo.

In honor of this event and to celebrate "Nebraskaland Days," the North Platte Amateur Radio Club will operate a special event station, W0CXH, from 1700 to 2300Z on 12 and 13 June 1982. Frequencies used will be SSB 21.400, 14.290, and 7.250 MHz and CW 21.150 and 7.150 MHz, ±QRM.

A handsome certificate will be available to those confirming contact with W0CXH by sending a legal-size SASE to the North Platte Amateur Radio Club, P.O. Box 994, North Platte, NE 69101. □

(please turn to page 10)

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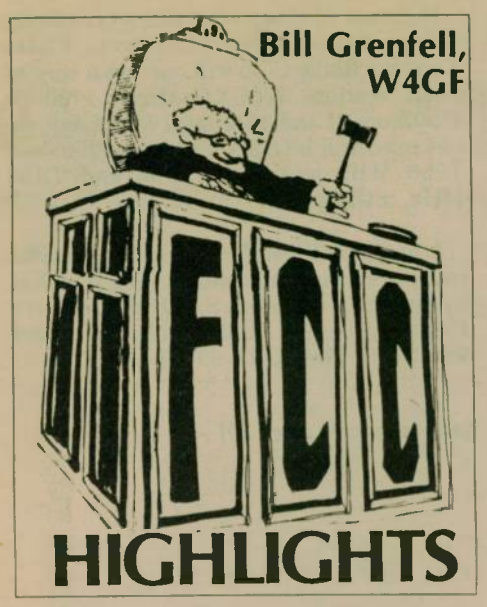
World Radio History



FCC's "deregulation" program resulted in deletion of two amateur rule sections on 1 April. Section 97.71 required the use of an adequately filtered transmitter power supply. Section 97.74 required a regular measurement of transmitter carrier frequency with a means independent of the transmitter frequency control circuitry. Both sections were deleted by FCC's action on 1 April, in keeping with the Chairman's regulatory review program to remove unnecessary rules. You can expect that the Amateur Service rules will be the subject of a future series of such deletions. Probably a number of those which would have been omitted if the Commission's proposed "plain language" rules had been adopted, will be considered.

•

The FCC staff was scheduled to outline the no-code-for-the-handicapped situation at the Commission's 15 April meeting. A previous Notice of Inquiry on making exceptions for the handicapped has been rejected by amateur comment, many from handicapped amateurs!

•

Communications Act amendment legislation is progressing in the House Subcommittee for Telecommunications. Now identified as H.R. 5008, the bill presently (early April) contains (with one exception) all of the items of interest to amateurs which were previously included in H.R. 2203, and most of the items in S. 929 (by Senator Goldwater and others). Omitted is the RFI proofing requirement for audio and visual (entertainment) equipment. However, that requirement could still be incorporated in the bill before it is finally approved. The current proposed revision of the present wording of the secrecy section — Section 605 of the Act — would entirely remove any amateur station transmissions from any implied protection from revelation, which the present wording might be construed to provide.

•

As previously reported here, FCC plans no action to open the 10, 18 and 24 MHz bands to U.S. amateurs in the near future. Lack of U.S. Congressional ratification of the 1979 World Administrative Conference is given by the FCC as reason for the delay.

•

Use of "radiopositioning" or locator devices in the 1.6-2.0 and 420-450 MHz bands for offshore oil explorations is described in the 26 March 1982 issue of *Westlink Report* (formerly *HR Report*). The ARRL has urged the FCC to not permit use of the 1.8-2.0 MHz band and below, for cordless telephones. Some of these phones are now using frequencies just below 1.8 MHz.

•

FCC stated that aliens permitted to operate in the United States have privileges the same as in their own country, but never more than the highest class U.S.-licensed amateur. This was in response to a request for specific new rules to clarify the privileges of U.S. amateurs abroad and alien amateurs operating in the United States.

•

A request to permit school teachers to give the higher classes of amateur operator license exams was dismissed by the FCC. Pending legislation, which would give the Commission significant latitude in its examination procedures, was cited as the basis for not changing the rules now. Such latitude is contained in H.R. 5008 (see paragraph three of this issue of Highlights).

•

The CB and amateur licenses of Dennis Reum, KA9AHD were proposed to be revoked and suspended for: operation on 27,960 kHz; failure to permit inspection of his station; and for failure to produce his amateur license when asked for it by FCC inspectors.

•

ARRL has filed a petition (R.M. 4040) with FCC to preclude transmission of cable TV on Amateur Radio Service frequencies. According to ARRL, this has served to bring home to the National Cable Television Association the problem which can result from poorly shielded cable installations. Comment time on the petition has been extended to 1 August 1982 and, for reply comments, to 15 August.

•

Interim permits for Novice Class applicants was requested by Dennis Dutton, WB2CSJ in a petition, R.M. 4044, filed with the FCC.

•

Opposition to amateur spread spectrum use of the 50-54 MHz band has been filed with FCC by the Association of Maximum Service Telecasters (MST). FCC's General Docket 81-414 proposes amateur spread spectrum operation in the 50, 144 and 220 MHz bands. MST fears interference to TV channel 2 (54-60 MHz) from any spread spectrum experimentation in the 50-54 MHz band. □

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Special Events

(continued from page 9)

Battle of Gettysburg

On 1-3 July 1982, the Adams County Amateur Radio Society (ACARS) will operate a special event station from Gettysburg, Pennsylvania commemorating the 119th anniversary of the Battle of Gettysburg. The club's event will be in conjunction with the Gettysburg Volunteer Fire Department's annual observation of the battle. The Gettysburg recreation park will be the site of the attraction.

The special event station W3KGN will be on the air from 1600-2200 EDT, 1-3 July. Frequencies to be used will be 7275, 3900, 14,305 — SSB only.

Send your QSL and QSO number with 40 cents in U.S. postage to ACARS, 34 York St., Gettysburg, PA 17325 to receive a full color 4-by-6-inch QSL card reproduction of a section of the Cyclorama painting on view at the National Park in Gettysburg. The section of the Cyclorama painting represents the area of Picketts Charge as Southern troops briefly penetrate the Union lines before being repulsed. □

Tom Sawyer

The Hannibal Amateur Radio Club, Inc. will issue a 2nd annual special certificate from the National Tom Sawyer Days celebration in Mark Twain's boyhood home town in Hannibal, Missouri on 3-4 July 1982.

Hours: 1500-2100 UTC both days. Frequencies: Phone — 7.245, 14.290, 21.400; 28.770; CW — 7.125 and 21.125 MHz. The club will also be observing its 50th anniversary. Help us celebrate!

To receive the certificate, send a large (8″ × 10″) SASE and your personal QSL card confirming the contact to Hannibal Amateur Radio Club, Inc. W0KEM, 2108 Orchard Avenue, Hannibal, MO 63401. □

Independence Day

The Laurel Amateur Radio Club will commemorate Independence Day by operating W3QQR from the birthplace of the Star-Spangled Banner on 4 July from 1200Z to 2400Z on 7260, 14,285, and 21,400 phone, and 14,065 CW on the half hour.

Special QSL for SASE to LARC, P.O. Box 259, Annapolis Jct., MD 20701. □

Centennial celebration

A commemorative Amateur Radio station (K9JLK) will be operated in honor of Bonfield, Illinois's centennial celebration. Dates of the special event station operation will be 4 July, 1300Z until 5 July, ?Z. Send SASE to QSL manager, Jerry Whalen, WB9WOC, RR 2, Kankakee, IL 60901.

Operating frequencies will be: SSB: — 144.250; Phone: — 223.50, 146.520, 50.115, 28.600, 21.400, 14.325, 7.275, and 3.8-3.9. □

Salmon-A-Rama

The Racine Megacycle Club will be operating a special event station — W9UDU — during Salmon-A-Rama, 10-18 July 1982.

Operating dates and times

10, 11, 17 July	1100Z — 2300Z +
18 July	1100Z — 2000Z +

Frequency

Fish locators have identified good fishing grounds in the "General" portion of the phone bands on 10, 15 and 20 meters. Go fishing for W9UDU and receive a special QSL.

Send SASE to: W9UDU Racine Megacycle Club, c/o American Red Cross — Lakeshore Counties, 4521 Taylor Avenue, Racine, WI 53405.

W9UDU will be operating from the City of Racine's harbor. During the fishing contest, Racine is known as "The Salmon Capital of the World." The contest is sponsored by the Tuesday Optimists Club, in cooperation with Racine County Conservation, Salmon-Unlimited, the City of Racine Parks and Recreation Department, and the Racine Chamber of Commerce.

Salmon-A-Rama is the largest *non-profit* fishing contest on the Great Lakes. Last year, 4,100 entrants from 23 states registered more than 25 tons of fish during the nine-day event, with the winner registering a 37.38 lb. Chinook salmon. The contest attracted 250,000 people, making it a major attraction in southeastern Wisconsin.

NOTE: If more information is needed about the fishing contest, contact: Chamber of Commerce — Racine Area, 731 Main Street, Racine, WI 53403; Phone: (414) 633-2451. For more information on the special event station, contact: David Voss, WB9USI; President, Racine Megacycle Club; 3333 Standish Lane; Racine, WI 53405; Phone: (414) 554-7565. Or Bill Widmar, KM9H; Activities Chairman, Racine Megacycle Club; 1101 N. Ohio Street; Racine, WI 53405; Phone: (414) 637-9076. □

World's Fair station now in operation

The World's Fair Amateur Radio station, which will operate the duration of the fair (May through October 1982), is using the call sign WA4KFS. All QSL cards are behing handled via Harvey Cross, W4PKM.

A beacon has been operating 24 hours per day, broadcasting road and other information, referring listeners to specific repeaters for more details.

Operators interested in traffic handling in connection with the station are urged to contact Juanita Teffeteller, NG4J. Also needed are: control operators, to be

World Radio History

...important notice

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responsible for proper operation of the station and to be on duty per a prearranged schedule; visiting operators, who will operate the station under supervision of the control operator (normally not on a formal schedule); VHF monitors, who will monitor repeaters listed in the broadcast by the VHF beacon, to be on duty per prearranged schedule. VHF monitors need not be on site.

There is also a very real need for financial support. The contributions already received are appreciated, but they cover only a fraction of anticipated costs. A certificate will be sent to contributors in the following categories: **Sustaining Clubs** — $100 or more; **Supporting Clubs** — less than $100; **Sustaining Patrons** — $10 or more; **Supporting Patrons** — less than $10.

Donations can be sent to: Tennessee Wireless Association, Inc., c/o Jerry Goodchild, K4DZR/Secretary-Treasurer, 3701 Warner Drive, Apt. 213, Knoxville, TN 37912. ☐

Frustration

Contributed by Bill Reines, WA2CLO

Thieves tunneling into the vault of Lloyds of London kept in touch with their lookout by radio. A ham operator picked up the conversation and reported the burglary attempt to police. They showed no interest, even though the amateur spent 13 hours trying to convince them the tunneling was taking place.

Finally the cops decided to look into the matter, but by then it was too late; the thieves had absconded with the loot.

—*New Times* ☐

Special event was a success

Mike Deisher, KA9FWB

The special event station we (the radio amateurs of Warren County) ran in celebration of Monmouth, Illinois' 150th birthday (19-20 June 1981) was a big success. We made over 500 contacts and worked all states in less than 24 hours of actual operating time. We used a Butternut vertical mounted atop the courthouse and a TS-130S on HF. Dave Gillen, N9BOH even took 2 meters up in his airplane. ☐

Amateur Radio call signs

Amateur Radio operators often ask the FCC what call signs have been assigned lately. This list shows the last call sign in each group to be assigned for each district, as of 1 April 1982.

Radio District	Group A	Group B	Group C	Group D
0	KS0G	KC0QN	N0DQO	KA0NMT
1	KJ1A	KB1AP	N1CBK	KA1IOU
2	KU2N	KC2OH	N2DJT	KA2OYK
3	KI3P	KB3ZX	N3CSQ	KA3IYT
4	NX4Y	KE4RC	N4GST	KA4ZRG
5	KX5W	KD5KE	N5EPT	KA5NTD
6	NJ6D	KE6TX	N6GJT	KA6TTX
7	KR7W	KC7RQ	N7DUZ	KA7MWA
8	KU8R	KC8UF	N8DUN	KA8PHZ
9	KN9M	KC9OL	N9DCF	KA9NAR
N. Mariana Is.	AH0A	AH0AA	KH0AD	WH0AAF
Guam	AH2N	AH2AN	KH2AW	WH2ADG
Johnston Is.	AH3A	AH3AC	KH3AB	WH3AAC
Midway Is.		AH4AA	KH4AC	WH4AAF
Hawaii	NH6R	AH6ED	KH6RX	WH6ATG
Amer. Samoa	AH8B	AH8AB	KH8AC	WH8AAN
Wake Wilkes Peale			KH9AA	WH9AAA
Alaska	WL7N	AL7DV	KL7UP	WL7AUD
Virgin Is.	KP2H	KP2AM	NP2AP	WP2ACW
Puerto Rico	NP4K	KP4FF	NP4FD	WP4CFW

For more information about call sign assignment in the Amateur Radio Service, see Section 97.51 of FCC rules, or write to the FCC, Consumer Assistance Branch, Gettysburg, PA 17325. ☐

World Radio History

ARRL's new General Manager

Norm Brooks, K6FO

I suddenly realized that I was in on a scoop! I was at the SAROC Convention in Las Vegas, Nevada on 2 April 1982, listening to David Sumner, K1ZZ — the new General Manager of ARRL — talk about how he sees his new job.

He reminded us that he had been on this new assignment not quite two weeks, and this was his first opportunity to speak before an Amateur Radio assembly of any kind. We were the first to hear him tell of his goals and ambitions as he takes over the top job of admininistering the American Radio Relay League (ARRL). The title of his discussion was "The future of ARRL and Amateur Radio."

We old timers see Dave as a young man — age 32. He has already served the League for over 10 years in various staff capacities. Here is a man who knows the League intimately. He was there. If there are any skeletons in the closets at League Headquarters, he would know what and where they are. He is quick to point out that he directs the operation of League Headquarters and that he is responsible to the League Board of Directors for this administration.

This is the first time in the history of the ARRL that the incumbents of both top jobs were changed at the same time. Dave Sumner replaced Dick Baldwin, W1RU, who served the ARRL for over 30 years. At the same time, Vic Clark, W4KFC replaced Harry Dannals, W2HD as President.

Dave drew a verbal organization chart of the ARRL for us. "No matter how you draw it, the membership overshadows everything else at the League." It is the membership which makes all the important decisions through the elected Directors. The opportunity is there for every member to be in on the decision-making process by letting his Director know how he feels on any issue.

"Vic Clark is now the real leader of the ARRL for the next two years," Dave continued. Remember, Clark and the other Directors are unpaid volunteers. And Clark will probably put in a 40-hour work week for the League without compensation.

At the same time, the Board elected a new Executive Committee consisting of Directors Bill Stevens, W6ZM; Jay Holladay, W6EJJ; Paul Grauer, W0FIR; and Mitch Powell, VE3OT. Note that half of the Executive Committee — Stevens of Pacific Division and Holladay of Southwestern Division — are from California.

Dave promised, "You're going to be seeing a fresh approach to questions brought before the League. The new team is well-deserving of your confidence — I know we're going to be able to deliver."

There's enough room in Amateur Radio for all of us to do everything we want, Dave opined. "I regret we spend so much of our energy doing the same thing over and over." There's room for the DXer to get into slow scan TV, or for the ragchewer to get into moonbounce.

There's a great future in Amateur Radio, and it is the job of the League to insure that Amateur Radio goes on forever. There will be a lot of revolutionary technical changes, but they won't change the basic nature of Amateur Radio.

Dave Sumner, K1ZZ and his parents — Ray and Ruth Sumner of Sun City, Arizona.

David Sumner, K1ZZ is the new General Manager of ARRL.

"We want to protect Amateur Radio's traditions, yet insure that we take new opportunities as they present themselves," Dave said. "There will be new horizons — new worlds to conquer. Digital voice and spread spectrum will have a tremendous impact. The three new HF bands plus the new UHF band at 900 MHz will be increasingly useful. It is the job of the League to recognize specialty interests, yet capitalize on common interests.

"All of us who care about Amateur Radio can think of some things that we wish we had done differently in the past," said Dave. "We hope the League will make the right decision most of the time in the future. The 21st century should be an exciting time for Amateur Radio."

After a spirited question-and-answer session, Dave proudly introduced his parents — Ray and Ruth Sumner of Sun City, Arizona — who came to SAROC to hear him speak. Dave's charming wife, Linda KA1ZD, was also present. □

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The ARRL Forum

Norm Brooks, K6FO

Attending the ARRL Forum at SAROC on 3 April 1982 was a little bit like watching a rerun on TV, after we had all met the new General Manager the day before. This time, however, we were greeted by Bill Stevens, W6ZM, Pacific Division Director of ARRL, who introduced Jay Holladay, W6EJJ, Southwestern Division Director and Lew Nathanson, W8RC, Great Lakes Division Director. ARRL staff member Richard K. Palm, K1CE was also present.

DXCC Country List

Stevens asked the 100 or so members and guests present if they would find the DXCC Country List any more useful if a bold type were used to identify the countries to which ARRL forwards QSL cards. The vote indicated it would make no difference.

Board minutes

Are ARRL Board and Executive Committee minutes, as published, word for word from the meetings? No, explained Stevens. Committee notes are *not* verbatim, but two secretaries take notes. Then, later, the person who spoke to the point and the two secretaries agree on a statement that reflects the intent of the discussion. The published version is "true in fact, but not necessarily verbatim," explained Stevens.

Senior citizens

Stevens was challenged from the floor for having voted against the senior citizen discount. Bill explained that he *did* vote for the seniors at a previous Board meeting. When he voted the last time, he voted "no" because that particular motion did not say enough. He wanted the handicapped included.

A member suggested that if there was to be any reduction in fees, it should be based on need, not just age. Director Lew Nathanson responded to the comment, pointing out that the League was inclined in that direction. It is now looking at a possible youth section.

Phone band expansion

Director Holladay spoke about FCC Docket 82-83, in which the Commission proposes to expand the 20-meter phone band. The proposals are complicated in that some of them would give General Class operators a "split" band — two portions in which to operate. He urged the membership to get familiar with the proposals and let the League and/or the FCC know how they feel. The League has requested a 45-day extension to give everyone a chance to comment.

New WARC bands

The FCC has indicated it will not allocate the new bands for use by U.S. radio amateurs until the WARC (World Administrative Radio Council) Treaty is ratified by the U.S. Senate. Unfortunately, the treaty has been referred to the Senate Foreign Relations Committee. That committee right now is busy with other things, such as El Salvador. The membership was urged to individually write to its senators, especially if they are

(*please turn to page 45*)

Contest

(*continued from page 4*)

donor and object to this change, let the committee know.

What to do with the point rule? There are five alternatives:

1. Leave as is.
2. Raise the points per contact from 1 to 2 for contacts in the same continent.
3. Lower North American contacts from 2 to 1.
4. Allow 1 point for a contact within the same zone. 3 points for a contact with another zone. Zero points for a contact within the same country.
5. All contacts outside your own country would be 2 points.

A vote of the amateurs present showed a great majority favored change #4 above.

"The nicest thing that has happened recently is that I have found a high level of honesty in checking the top four DX contest logs," declared Larry. Last year one of the top logs had 18 percent calls that could not be verified. This year, things are different. However, there are still a lot of complaints of help from spotting repeaters, and of persons helping with operating and logging. He stated that if you have any complaint about CQ contests, it is better to send in your complaint in writing. The committee can better handle complaints in writing. Also, the committee cannot act on hearsay evidence. It must have *hard* evidence.

Tom Taormina, K5RC of the Texas DX Society announced a Contest/DX "first." In connection with the 1983 ARRL National Convention in Houston (7-9 October), the Texas DX Society will host two International Contest and DX Symposiums. There will be a call for papers from all over the world to be presented at each symposium. A "Blue Ribbon" panel will be appointed on each subject. Two members on each panel will present opposing views of controversial subjects. Later, the DX Society will publish the papers, making them available to all participants and to the radio news media.

"I'm announcing this 18 months early so you people can start thinking about papers to prepare," he said — and of course, to make plans to get to Houston next year. □

World Radio History

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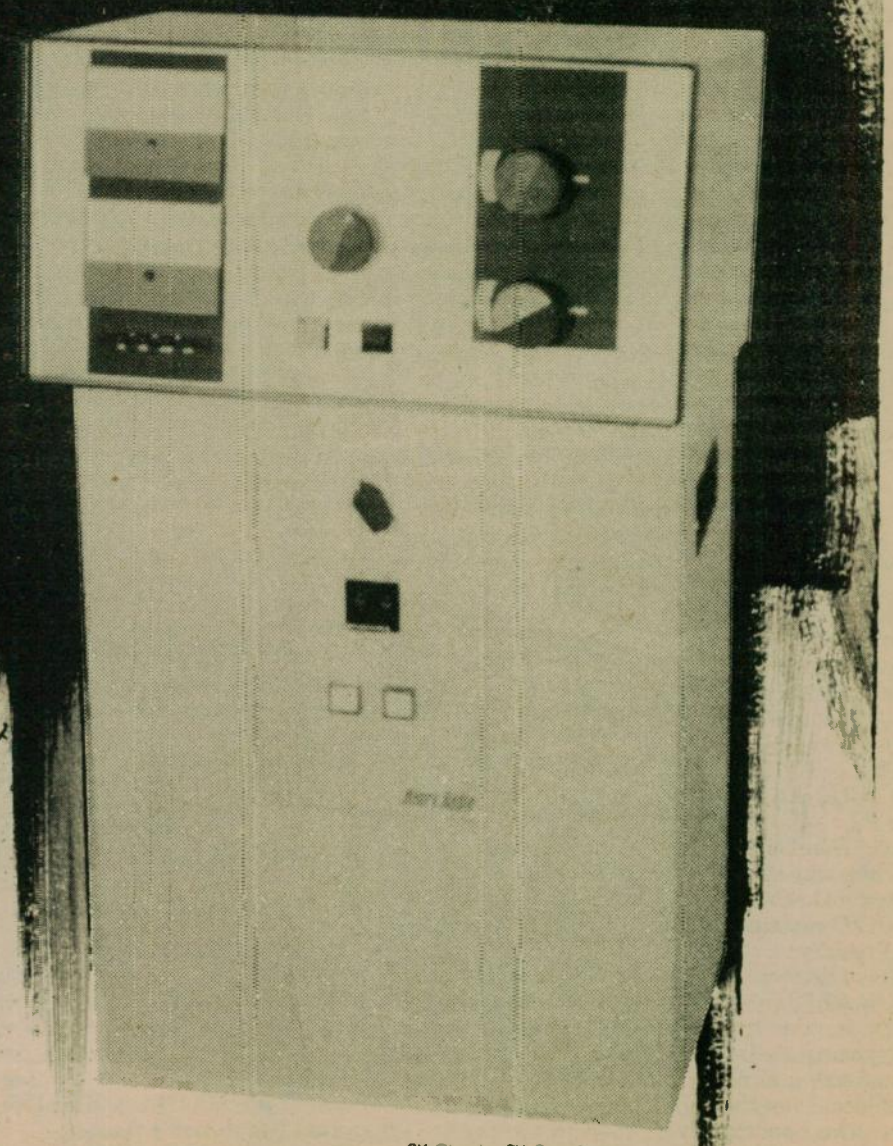

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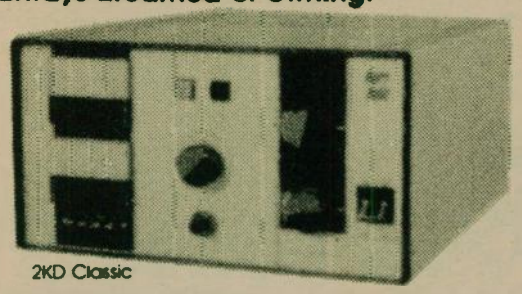

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The 3K CLASSIC uses the superb Eimac 8877 tube. More than 13 db gain. We believe the 3K to be the finest amateur linear available anywhere. $2695

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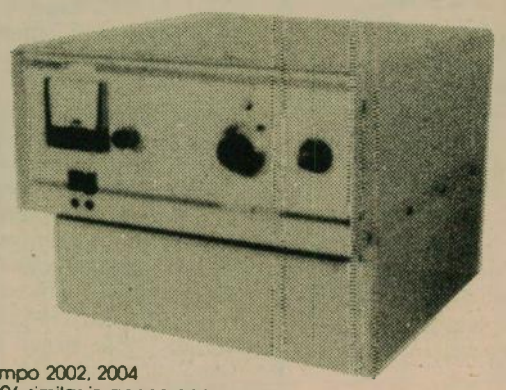

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World Radio History

OFF THE AIR

Messages for boaters

I think maritime mobilers are in great need of our message traffic nets' free message service — to keep in touch with their families and friends ashore. Wouldn't it be a good idea to put a public service notice about free message services in boating magazines and other publications relating to boating? This, I think, would be a great service for boat owners who are also Amateur Radio operators and for those who are not. It should be an easy matter for them to at least get a Novice license and thereby use the Novice band traffic nets. Perhaps a copy of an ARRL radiogram could be put in boating magazines, etc. to show what radiogram service is all about.

73s
KEN HAND, WB2EUF
East Hampton, L.I., New York □

How high is up?

Here is a subject that might spark some interest from other amateurs; all they would have to do is draw a sketch with an explanation and send it to you for publication.

There are several ways to measure the height of your tower mast or what have you so that you know at what height your beam, etc. is set at. Some get involved in math, and math not being my best subject, I have problems any time I want to know how high it is.

Very truly yours,
CURT BARNETT, KA6EMR
6687 North Sharon
Fresno, CA 93710 □

QST editor answers questions

You may recall an item you published in which Hal C. Justice, W4TS questioned the Xeroxed covers of QST I used on several articles relating to Old-Time Radio. (See April Worldradio, page 14.) This copy of a letter from ARRL Headquarters should resolve any contentions.

Sincerely,
CARL DRUMELLER, W5JJ
Warr Acres, Oklahoma

Dear Carl:

No, QST has *not* always had "Devoted to Amateur (or Wireless)" on the cover. There were no issues printed exclusively for newsstand sales; the covers looked the same for all issues. Back in July 1921, the cover read "Wireless Amateur," (devoted to): August 1921 "Citizen's Wireless;" September 1921 "Wireless Amateur;" October 1921 back to "Citizen Wireless;" November 1921 "Wireless Amateur;" December 1921 "Citizen Radio;" January 1922 nothing; February, March, April and May 1922 "Amateur Radio;" June, July and August 1922 "Citizen Radio;" and finally, September 1922 to present, "Amateur Radio." The real old issues, pre-1921, are devoted to the wireless amateur, for the most part.

73 to you and W4TS,
LAIRD CAMPBELL, W1CUT
Managing Editor, QST □

Skeds wanted with American Samoa

I am interested in American Samoa and would like to know more about it. So would like to set up skeds and correspond with amateurs there.

Tnx & 73,
SHELBY HAUKOS, KB0JW
1239 North Baird Avenue
Fergus Falls, MN 56537 USA □

If a foreign amateur visits your area, do a picture story for Worldradio

Grateful to Bash

I would like to express my views on one of the current controversies in Amateur Radio: the Bash study guides.

I received my novice ticket on 26 January 1981. Desiring to upgrade as soon as possible, I studied for hours and hours using the various guides that are available. I passed my General Class license in May 1981. Despite the hours of studying, I did not retain much of the material.

I love Amateur Radio operation and procedures but didn't care much about electronic theory per se. After putting in all those hours studying for the test, I felt that it would be years before I would ever get the drive to upgrade again. (I despise studying something that I am not interested in. If the license test required knowledge on DXing procedures, CW operation, listening strategies, and/or antennas, studying would have been no problem.)

When a person takes a written and road test for a driving license, he is not required to know the mechanics of a car. As long as he can operate the car safely and legally, he should have all the privileges of his license. If he operates the car in any way that is illegal or unsafe, he should be taken off the road and have his license revoked.

I received my Extra Class license in November 1981. I retained and learned more about radio theory using the Bash books than I did with the other study guides. The time I saved by using the Bash books was spent learning the code and getting my DXCC.

For people like myself who would rather spend their time operating than studying, the Bash study guides are a worthwhile investment.

GREGG DECKER, KS2A
Woodbridge, New Jersey □

Attention, Extras

In re expansion of 20-meter phone band

All radio amateur Extra Class licensees are reminded to lobby for the FCC-assigned Docket No. 82/83 Notice of Proposed Rulemaking of the HF phone band expansion.

"The Commission proposes expansion of the 14 MHz phone band by 50 kHz, from 14,150 to 14,350 MHz, with the new segment to be available equally to licensees of General Class and higher. There would be no change to the segment 14,200 to 14,275 MHz, which would continue to be available only to Advanced and Extra Class."

We would like to propose the following changes to the above: "that the new segment 14,150 MHz to 14,200 be available to the Extra Class license holders *only*. No other changes to the 14,200 MHz to 14,350 MHz. This would hold down the QRM as anticipated by countries now using this segment of the band. It is also to be recognized that it would be an incentive for anyone to upgrade.

All amateurs have until 1 July 1982 to send their comments to the Secretary, FCC, Washington, D.C. 20554.

EDOUARD COURNOYER, W4UMO
Atlanta, Georgia □

Looking for SWLs

I would like to communicate with SWL amateurs. Purpose: friendship, to exchange logging info, and maybe to form an informal net.

DAVID MANGUM, KA7FSW
438-27th Avenue
Greeley, CO 80631 □

Do you remember your first QSO?

Mike Peterson sure does! His exciting first contact was the beginning of a new world for him — a world without restrictions — a world supported by the Courage HANDI-HAM System.

The Courage HANDI-HAM System is an organized group of disabled and able-bodied licensed hams, who help individuals with physical handicaps become involved with Amateur Radio.

As a HANDI-HAM member, Mike's travel adventures have not been limited by his wheelchair. If you'd like to help HANDI-HAM students travel the airways and discover the thrill of making the first QSO, contact the address below.

COURAGE HANDI-HAM® SYSTEM
Courage Center, 3915 Golden Valley Road
Golden Valley, Minnesota 55422 WAØQWE

New program aids blind DXers

Thanks to a couple of dedicated amateurs, I have been able to listen to Worldradio magazine on cassette tape each month. Two years after losing my sight from detached retinas, I obtained my Novice Class license. Six months later, I achieved the General Class and became a faithful DXer. There are two main problems faced by every blind DXer. One is the inability to obtain current DX information, and the other is the problem of simply filling out the QSL cards and getting them mailed to the right place. I would like to ask Worldradio's help in advertising a new program available for the blind DXer.

The Braille DX service provides: 1) A monthly cassette recording of current DX activity and expeditions, as well as important QSL information. The monthly recording features the Kansas DX Association monthly newsletter. 2) A current DXCC listing of all countries, either in braille or on cassette tape, including regular, up-to-date prefix changes. 3) A personal QSL manager to handle outgoing QSL cards. A volunteer fills out the DX cards for the blind DXer and log information is passed either by on-the-air schedules, or by cassette recordings mailed to the volunteer.

The DX information provided by Worldradio helps a blind DXer a great deal if he receives the cassette recording each month. I personally have appreciated the DX information found in Worldradio in recent months. The Kansas DX association has demonstrated interest in this program by providing monthly newsletter on cassette tape, as well as volunteer QSL managers for the blind DXer. There are already over 200 blind amateurs receiving Worldradio each month on cassette tapes.

Membership in the Braille DX Service is a one-time $2 donation to help pay for cassette tapes and braille material.

73,
PHIL SCOVELL, AFØH
Lakewood, Colorado □

China article stirs up memories

The article "China is now on the air" (May issue, page 1) was good news and very interesting. Many years ago, when President Nixon arrived in Peking, The People's Republic of China, I happened to switch on my general coverage receiver and the first station to come in was Radio Peking, with good clear reception and signal strength.

I noted the main items describing the arrival of Nixon at the airport, including the reception remarks of the welcoming party. I sent the usual reporting data to Radio Peking. I received a QSL card, and since that time have also received a very nice wall calendar for the coming year. Other articles received include a desk

World Radio History

notebook, lots of magazines and a lapel badge showing the building of Radio Peking — the antenna tower with the words Radio Peking on a red background. (Even a Scotsman can make friends in China.)

On another occasion, a magazine published in Melbourne, Australia — **Amateur Radio Action** — was sent to me by a ham friend in Belgium. The special feature article in the magazine was "Amateur Radio in India." I wrote to the Federation of Amateur Societies of India, at Bombay, and in reply received several magazines and a large (8 inches in diameter) decal in three colors, showing the world encircled with a band inscribed with "Amateur Radio," and around the world, "One World One Language." This decal is now framed and hangs in my radio shack.

With Amateur Radio, I have made many friends throughout the world. It crosses all borders created by man.

I am a member of Courage HANDIHAMS and of IMRA. Never a dull moment in my retirement, thanks to radio. (When the time arrives, I will try out my CW keyboard, code reader and TV monitor on China, since station BY1PK will operate CW only.)

73,
BILL DAVIS, WB6UWB
Fair Oaks, California □

'Psalm of Radio'

I have seen some of the old QSL cards that you have printed in **Worldradio** and thought you might be interested in "The Psalm of Radio," [printed on a QSL card I received from W6KUS].

The Psalm of Radio

Radio is my hobby; I shall want no other.
It maketh me to stay home at night.
It leadeth me into much trouble.
It draweth on my purse (What purse?)
I go into paths of debt for its name's sake.
Yea, though I understand it perfectly,
it will not oscillate.
The different kinds of notes, they comfort me;
It will not work in the presence of mine enemies.
(Or anyone else)
I anoint the coils with shellac,
But the tube spilleth over.
Surely the radio bug shall not follow me
all the days of my life:
For if it does, I shall dwell in the house of
poverty FOREVER.

Amen. (Anonymous)

I contacted W6KUS on 30 November 1937. He forgot to fill in the year, but by checking back in my old logbooks, I found that it was made in 1937. I have all of my logs dating way back to 26 March 1926, which was the day I first went on the air.

W1ITM mentioned on the card is John Maloney, formerly of Windsor Locks, Connecticut. For those of you who knew John, perhaps some of you might like to send him a card. He has been sick going on six years and is now a patient at the Rocky Hill Veterans Home and Hospital in Rocky Hill, Connecticut.

This winter I ran phone patches for KC4USB, the Byrd Surface Camp down in the Antarctic. They closed 10 February and will reopen somewhere around 1 November. I had a sked nearly every night with them and ran a total of 69 patches for them.

I am 73 years old and work every day except Mondays (1 Hard Working Guy), which are devoted mostly to Amateur Radio. I really enjoy reading your paper and find it very interesting and informative.

73's
CHARLIE STEVENS, W1HWG
Stafford Springs, Connecticut □

He's thankful for this rule change

As probably all amateurs know by now, we are no longer required to clear with another station or group unless we are handling international third-party traffic. Such international traffic is of little concern to most statewide NTS section nets, so — for all intents and purposes — "dual" identification is no longer required. This ruling — four years in the making — has far-reaching effects on the efficiency of CW traffic nets, especially those that operate at speeds below 10 wpm where a call sign can take as much as 30 seconds to send.

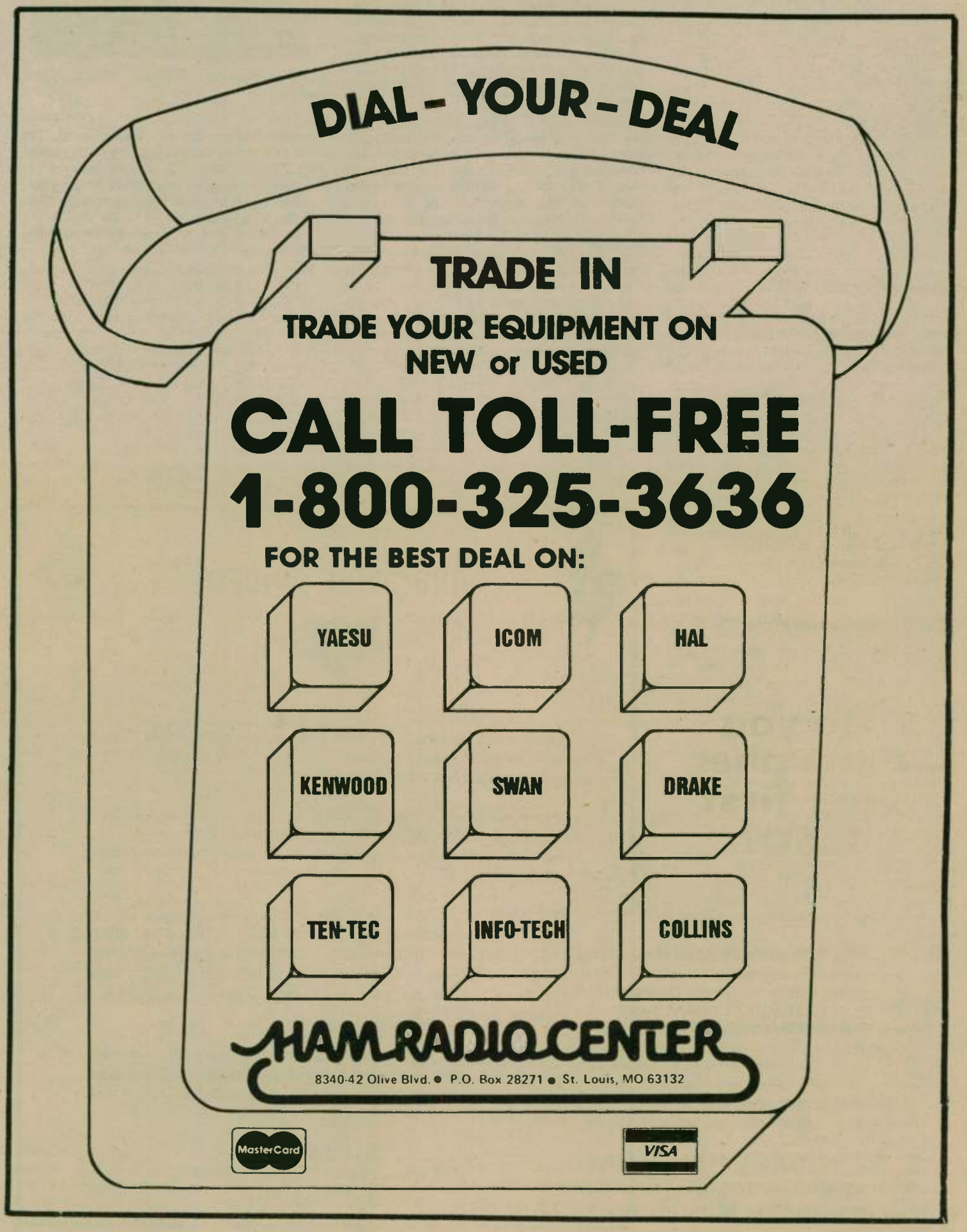
Anyone who is on a slow-speed net regularly has already seen the results: net sessions aren't as lengthy, QNX is faster, and we even save electricity (not to mention RFI) by not having to transmit as much.

The requirement of having to clear with another station has always been rather foolish, in my opinion. Apparently, the FCC wanted to make sure a person was really having a QSO and not just talking to himself. (What's so illegal about talking to yourself?) The FCC has finally seen the light. With call signs of ever-increasing length and complexity, identifying was becoming more work than studying for a higher class of license. Perhaps even the phone station who has to give *everybody's* call when clearing with a group will become a mere quirk of history. Regardless of their reasons for requiring or deleting the dual ID rule, clearly the better alternative has dominated in the end.

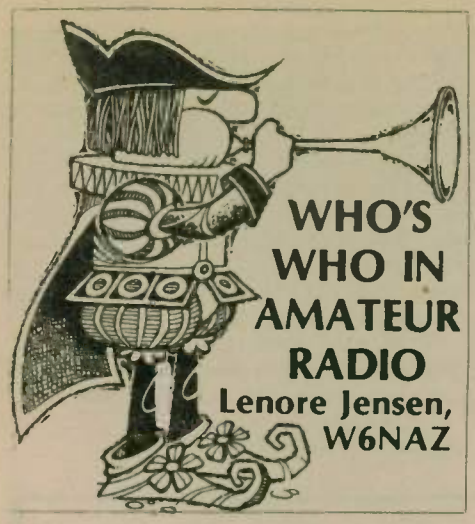
The only disadvantage to the change applies to the station who tunes in to the very last transmission of a QSO and wishes to know who the station on final was communicating with. He may never know, but that is a small price to pay for our new-found freedom.

If the FCC wants to police violators, they can still do so. Requiring stations to give two calls did not increase their

(*please turn to page 17*)



World Radio History



The man who was responsible for the development and supervision of the TV blockbuster, *60 Minutes*, admits to being a "true radio nut" as well. He's Bill Leonard, W2SKE.

This year he stepped down from the presidency of CBS News but continues as a valued consultant to the network. He started under the CBS banner in 1945 and worked his way up through many important titles.

He wasn't the typical retiree; he was given a royal send-off by his admiring (and normally non-sentimental) colleagues, with a gift. No gold watch, mind you, but some fine Amateur Radio gear, proving the importance his hobby had played in his life over the years.

Bill Leonard's influence on our lives has been important to most of us — more than we realize. A great many of the very best documentaries and public service programs we've tuned in have been under his direction. News coverage of all kinds coming into our living rooms has had the Leonard touch. Even now, Dan Rather on the CBS Evening News (succeeding Walter Cronkite's retirement from it) represents Bill's leadership.

One of the top men at the network has said of him, "As much as any single person in the history of CBS News — if not the industry itself — Bill Leonard embodies the highest aspirations and achievements of broadcast journalism. His extraordinary career included every aspect of his craft — reporter, writer, producer, programmer, executive and industry leader. He excelled at each. His instinct for the heart of a story was by the kind of personal qualities that are at their best when the pressure is greatest!"

The tribute was well earned. He had prepared well.

Although born a New Yorker, he went to school in New Jersey and Connecticut, choosing Dartmouth for college. Even though a 4-letterman in sports, (he once boxed with Joe Louis), he felt the pull of journalism and eventually became managing editor of **The Daily Dartmouth**. At the same time, he was head of the Amateur Radio club and appeared in college plays.

Bill had long been fascinated with radio, saying, "I was always kind of in love with radio. It always seemed a miracle to me, and still does!" He was halfway through Dartmouth in 1935 when he earned his amateur ticket and is just as excited about it today. It would appear that the concept of worldwide QSOs has fit in nicely with his professional understanding of global affairs.

Out of school, he tried 23 different newspapers before landing a job with the Bridgeport (Connecticut) **Post-Telegram**. Eyeing commercial radio, he and friends started a little package company on the side to do radio writing and acting.

This led to an ad agency in New York, an ideal spot for learning the essential "commercialism" of the industry. But when the shadows of war strengthened in 1941, he joined the Navy, becoming a communications officer working in electronic countermeasures. He signed out, after hostilities, as a Lieutenant Commander.

Television was active in New York City in 1945, but hardly noticed by most. Bill managed to secure an interview with the president of CBS, Frank Stanton, who could offer nothing videowise. But he did help him land a spot at the network's radio station in Manhattan. Bill was in the right place at the right time.

They needed someone who thoroughly knew the city (he'd learn fast), was a good reporter and on-the-air broadcaster for an upcoming program, *This Is New York*. He was it, youthfully undaunted by the enormous challenge of turning out a twice-daily magazine format in the world's busiest city.

"I was absolutely unafraid. You had nothing to lose in those days, because having survived the war, it meant very little." As he and others have learned, courage is an essential in the broadcasting industry. He would also need unlimited energy, as it turned out to be a

Bill Leonard, W2SKE ***(CBS News photo)***

nearly 24-hour-per-day assignment. He did two shows each day and had to gather all the news, night as well as day.

And it brought him to his great wish: television. The show became *Eye on New York*. Year: 1948.

It was a dream come true. "Nothing could match having all of New York as your beat and being able to go to theatre, cover city hall, crime or movies," he says of it. "It was like having the world in a basket. When you're an executive, you're not paid to be happy."

A friend and colleague of those days, Byron Paul (then W2HXC and now WA6RNG), remembers one feature Bill did on the air — *The Other Fellow's Shoes*. "Bill would go out and actually work at someone's job, be it plumber, garbage collector or pencil pusher, until he completely knew what the other fellow was up against. Then he'd do a great, subjective report on the air. It was fascinating!"

Also, about that time, Bill Leonard paid Amateur Radio an enormous compliment by doing a series on the Voice of America about our public service hobby. Unknown millions overseas were able to tune in to learn what amateurs do.

Byron continues, "Bill was a splendid broadcaster. In fact, he was so good on the air, today he would be in the Cronkite/Rather class if he had chosen to remain before the mikes or the cameras."

As it was, he actually did plenty of both in the earlier days.

He was given the opportunity to be a floor reporter at the televised political conventions of 1952. Bill Leonard handled that exciting, frantic job very easily, encoring in 1956 and 1960.

As the years flew by, he became more and more attracted to the news side. In 1959, he officially switched over to CBS News as both a correspondent and producer. One of his most vivid memories is of the second *CBS Reports* documentary. He traveled into the turmoiled Dominican country and, surprising everyone, managed a remarkable interview with the dictator, Trujillo. However, Bill also filmed things he wasn't supposed to and interviewed the underground. He had to leave in a hurry but came home to put together an engrossing, enlightening program which won an award.

Those were the days of Edward R. Murrow and Fred W. Friendly, with whom Bill worked closely. He went on to make other documentaries, such as *Our Election Day Illusions: The Beat Majority, The Beat Majority and the Supreme Court*, etc.

His next new assignment made him head of the News Election Unit, formed in 1962. He was in charge of the editorial policies, production plans and broadcasts during CBS News coverage of political campaign years. (If you think back, you saw a lot of it!) His group developed the method of giving us those fast estimates of election results, which we now take for granted.

He also was made a Senior Vice President, Director of Public Affairs Broadcasts, CBS News in 1971, although he'd had an only slightly less fancy title since 1965. It was in 1968 that the famed *60 Minutes* hit the air under his supervision. The show has been collecting honors ever since.

Some of the other documentaries developed under his leadership have been *The Selling of the Pentagon, Hunger in America* and *The Guns of Autumn*. He has right to be proud, too, of the children's series, *In The News* as well as of the informative *Magazine*.

Also well remembered should be *A Day in the Life of the United States, The World of Charlie Company, Of Black America* and many great presidential interviews.

After several years in news in Washington, serving as the one responsible for his corporation's government relations and then as Executive Vice President and Chief Operating Officer, he reached the top drawer early in 1979 — as President of CBS News. An awesome challenge. He was ready for it.

Bill Leonard brought about the *CBS News Sunday Morning* program, a daily *Morning*, plus a Western Edition of the Evening News (an update welcomed by those near the Pacific) and, of course, *Universe*, the science magazine featuring Walter Cronkite. Teenagers have their own series, *30 Minutes*.

Knowing he had but three years before official retirement age, Bill worked to leave the department in a strong and

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World Radio History

healthy situation. He comments, "Everything seems to be in place; it seems to be a good time to go and I'm going."

Looking back, he didn't get the full hour or longer network news period he'd have liked, but that may come. He's proud of his profession, saying, "The networks play a unique role in news — one not easy to duplicate. It took an extraordinary set of circumstances to get it started: 30 years of radio, 25 years of television. It's a flourishing, competitive service unduplicated anywhere in the world. Nowhere on the face of the earth is there anything like what the networks do in broadcast journalism."

Even though he no longer has the heavy burden of his former position, his plans for consulting will give more time for his many interests. His race horses, perhaps. And the various boards on which he serves: those of The Associated Press, National Association of Broadcasters and the Museum of the City of New York.

He may have time to look for some of his awards, which include several Emmys and the Albert Lasker Award for medical journalism (1956) and the Ed Stout Award for the best Latin American reporting (1960), etc., etc.

Surely Amateur Radio will continue top of the list. This summer, he and his wife, Kappy, will vacation in the south of France where Bill will export signals from FØWL.

W2SKE is an old hand at operating overseas during his many trips, often with reciprocal calls and always making new ham friends.

For years he has been a regular on our stateside bands, heavy work responsibilities or not. There'd be time made whenever possible to QSO his college classmate — Dick Dorrance in Brazil. Or his many friends in the New York City area whenever he could hit the repeater frequented by so many CBS employees or retirees. Or his pals in Hollywood, such as Ernie Lehman, K6DXK. The Broadcasters Net on 20 has been another favorite. Or just wave a contest announcement in front of him!

In other words, the man who's held some of the most exciting jobs in our country, traveled with those who lead, made major decisions affecting what the public sees and hears, is also proud to call himself "a true radio nut!" Like you, and you and you . . . . □

Among those attending SAROC this year were (left to right): Len Nathanson, W8RC, Great Lakes Division Director; Jay Holladay, WA6EJJ, Southwestern Division Director; Dave Sumner, K1ZZ, ARRL General Manager; Richard Palm, K1CE, ARRL staff member; and Bill Stevens, W6ZM, Pacific Division Director.

Off the Air

(continued from page 15)

chances of catching them. Nor did it tell them whether or not the station was engaged in an unauthorized one-way transmission. Such transmissions could still occur even if the violators cleared with another station. All he had to do was find a call not listed in the Callbook and use that as the other station's call sign. The examples are endless.

The FCC itself demonstrated the foolhardiness of the old rule when it allowed net stations to clear with the net itself, "MNN de WB8NCD CL." Now, what can the FCC do? Arrest "Mr. MNN" and take his license away for assisting a rules violator? These comments may seem sarcastic, but are they really any more sarcastic than the old rule? Perhaps not. This writer has contended with that rule for over 10 years (longer for many amateurs) only to now be told that, even with more amateurs on the air than ever before, it was a waste of time. I knew that.

One tangential benefit from the rule change applies to repeater users, especially on 2 meters after an autopatch. They no longer have to clear with the repeater at the end of the patch; no more guessing at that cockeyed repeater call (was it WR8,/R,/Rpt,/A,B,C,D,E,F,G. . .?). This, too, should improve efficiency in the VHF spectrum — especially during disaster operations (Lord knows we have enough disasters to contend with) where minutes may mean lives.

A second aspect of the rule change is the fact that a station no longer need identify when joining or starting a QSO. This has little application to the CW operator of today since most CW signals sound substantially the same, and the uniqueness of your signal will no longer identify you as it would have 20 years ago. However, if there is some way the NCS would know who you are (by your signal strength?), you could save yourself the time of identifying when checking in. Better still, a station can now check-in by merely sending his suffix; this falls halfway between identifying yourself and not sending your call at all, and now it's legal. Or if the NCS knows you're there before the net starts, you don't have to reidentify when you later check-in.

It has never been legally necessary for an NCS to acknowledge a check-in by sending his call, (it was only necessary for the check-in to identify); that acknowledgement process is largely based on recommended net procedure and tradition. However, on a net that is not excessively busy, a full-call acknowledgement is not really necessary to avoid the confusion that arises when a dozen stations try to check-in at once. Thus, efficiency could be improved even more if the NCS would acknowledge a check-in only by his suffix or his name. This idea is not a result of the rule change; it is merely a suggestion.

All in all, the rule change should have a very beneficial effect on net/emergency operations as well as all other facets of Amateur Radio. It is one of the best, in a series of arguably bad deregulatory decisions made by the FCC in recent times.

STEVE STUTZMAN, WB8NCD
Holland, Ohio □

Odds against you

In the April issue of **Worldradio**, N2CBU worked N4CBU and he asked, "What are the odds for that unscheduled contact?" On 25 November 1979, I worked K2KVS and the odds were 456,976 to 1.

DAVID B. BLALOCK, K7KVS
Pocatello, Idaho □

A small world

A Portland, Connecticut family called John Larrabee, WB1ADO at approximately 7:00 p.m. (local time), 24 March 1982 asking for help in locating a family member traveling I-10 (between Corpus Christi, Texas and western Louisiana) in a pick-up truck with trailer.

Paul Lux, K1PL, responding to the emergency, worked individual stations and nets on 10 and 20 meters putting out the vehicle's description and other information. The local family reported at 8:25, "Your people have found him!" and he had already contacted home. *It is a small world when you have Amateur Radio!*

Many thanks, Paul, for your expert handling of this situation.
— Middlesex ARS, CT □

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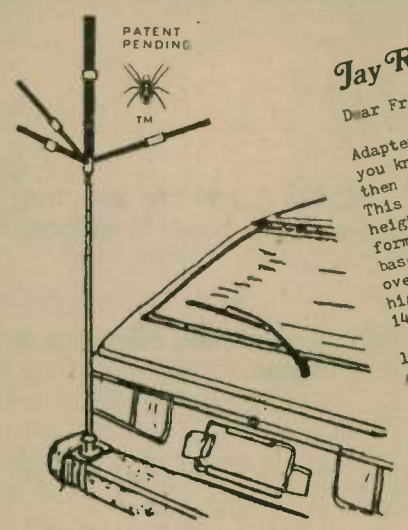

Box 245
Ranier, Minn. 56668
16 January 1982

Jay R. Nims

Dear Fred:

Thought I should report on the Spider Adapter that we installed on my motor home. As you know, we put the collar on my motor mast, then added the 10M, 15M and 20M Spider resonators. This combination did not increase the overall height of the antenna and gives me excellent performance on all bands. I have since added a spring base and a quick disconnect to use for low bridges, overhanging trees, etc. With the antenna mounted high on the side of the motor home we need about 14 feet clearance.

Last winter we travelled to Florida and last summer we made a long awaited trip to Alaska, going up the Alcan Highway and returning from Haines to Prince Rupert by ferry. We did not have any problems with the antenna by either high winds or rough roads -- and received excellent signal reports. It looks to me like you have a definite winner with your Spider Antenna as I have not seen anything that compares with it for simplicity and performance.

Sincerely,
Jay
KA7CHQ

19 JUNE 1981

DEAR FRED & LEN

I HAVE BEEN VERY PLEASED IN THE PERFORMANCE AND QUALITY OF YOUR "SPIDER" MULTI-BAND ANTENNA. THUS FAR IT HAS PERFORMED VERY ADMIRABLY FOR LOCAL AND DX OPERATIONS UTILIZING MY FT-707 WITH THE "SPIDER" BUMPER MOUNTED ON MY OLDS CUTLASS SUPREME. I KNOW YOUR ANTENNA WILL BE IN GREAT DEMAND, I HAVE ALREADY HAD MANY INQUIRES DURING QSO's AS TO TYPE OF ANTENNA I AM UTILIZING ON THE MOBILE. FROM A VERY PLEASED CUSTOMER, THANKS, 73's TO YOU BOTH AND KEEP UP THE GOOD WORK.

FRANK E. PETTY N6CER

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LEN—W6FHU *For further information write to* FRED—K6AQI

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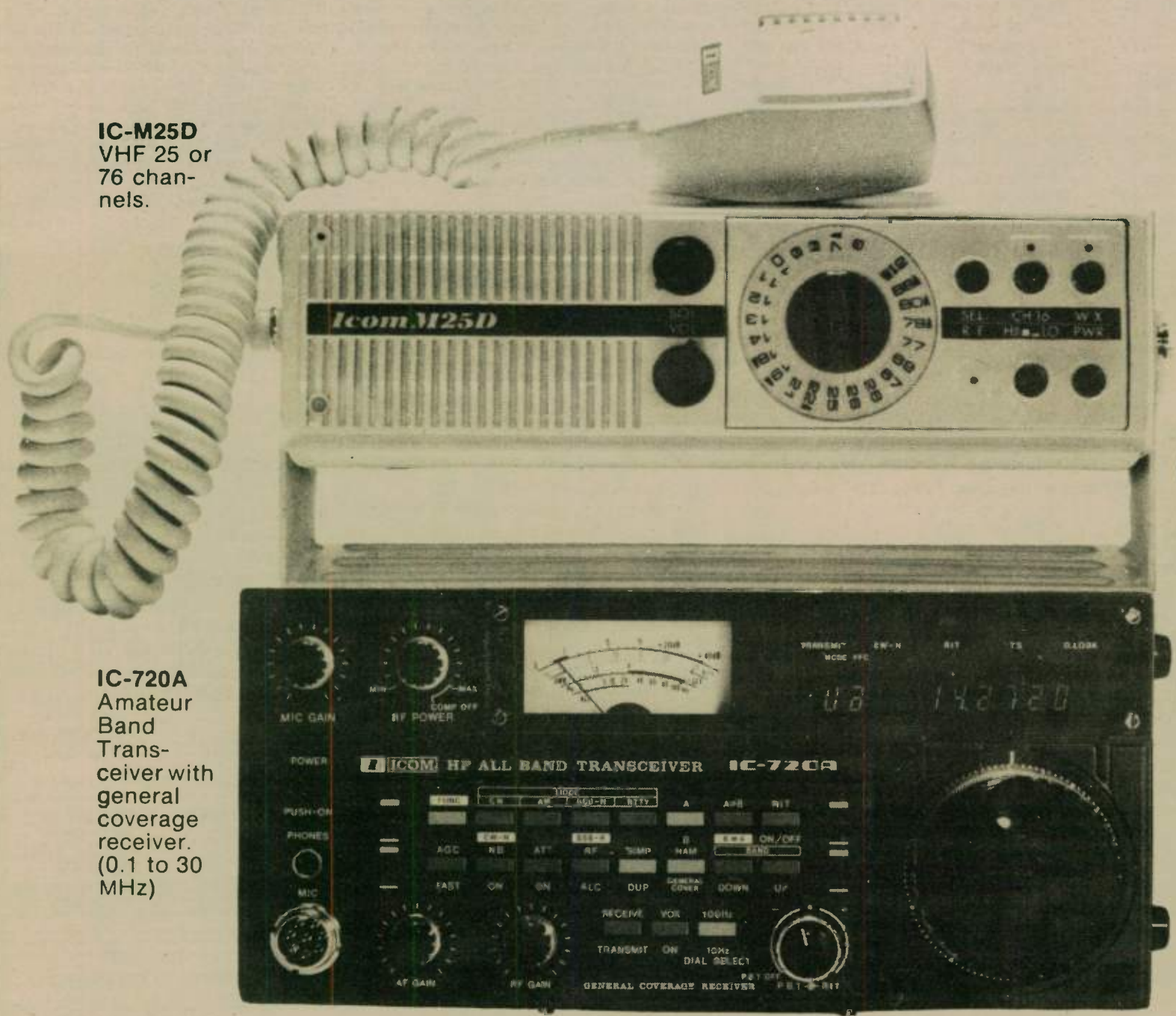

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World Radio History

American Radio Relay League

J.A. "Doc" Gmelin, W6ZRJ
Past Director, Pacific Division
ARRL Honorary Vice-President

In last month's column we look at some of the complexities of phone band expansion, especially as related to proposed expansion in the 20-meter amateur band.

While on the surface the issue of phone band expansion seems a simple case of relieving what appears to be overcrowding, the full effects of expansion can be far-reaching.

In this month's column we will look at another complexity — the fact that while the United States assigns phone sub-bands, the problem is even more complicated by the fact that we also have "sub-bands" in "sub-bands" based on license class.

There have been sub-band assignments by license class for much of the history of Amateur Radio in the United States, but it has only been in the past 10 or so years that sub-bands by license class have become so complex.

When I first started in Amateur Radio, there were sub-band assignments on the basis of license class, but it was by entire bands. To operate on the 75- and 20-meter phone bands, one needed a "Class A" (now Advanced Class) license. At that time (1947), there was no 15-meter band assignment at all, and 40 meters was only assigned to CW operation. There was no Extra Class license, and to obtain a "Class A" by upgrading from "Class B" (now General Class), one only had to take a further written exam.

The final outcome of the "incentive licensing" proposals of the 1960s was to further divide phone bands as well as CW bands by license class. In this way, everyone at least got some operation on phone and CW on all bands if they had a General Class license or higher. This was, of course, a compromise.

It is interesting — as a side note — that the League's final stand on the incentive licensing proposals was to return to the days of the "Class A" and "B" assignments, with no Extra Class license with its 20 wpm code test.

How does the present assignment of sub-bands within sub-bands affect phone band expansion proposals, and what stand should the League take in the matter of license class in any case?

Let's take the 20-meter band again as a starting point. In the case of the phone band, the present assignment is Extra and Advanced with full use of the 14,200 to 14,350 phone band, and General Class from 14,275 to 14,350 kHz. In the case of the CW band, Extra Class has the full segment and Advanced and General have all but the segment 14,000 to 14,025 kHz.

As was pointed out in last month's column, in actual practical operation, CW is only found from 14,000 to about 14,080 kHz, with RTTY generally from 14,080 to 14,110 kHz.

The proposal from FCC in Docket 82/83 would open the frequencies 14,150 to 14,200 kHz to General, Advanced and Extra Class phone, leaving the split segment in the frequencies 14,200 to 14,350, as at present.

This part of the proposal does not sit well with some of the radio amateurs I've talked to, since the docket was released. Some feel that this new segment should be for Extra Class only, or perhaps half for Extra and half for Advanced, or all 50 kHz for both Extra and Advanced.

Of course, I suspect that those who say it should be for Extra Class, already hold that license. Those who want both Extra and Advanced probably hold at least an Advanced Class license.

This brings us to the question of license class and band use. What should the requirements be for operating on any band or mode?

To answer this question, we have to ask the question of why we have licensing to use the amateur bands in the first place. Why not let everyone just do their own thing and use the natural radio spectrum as they wish?

Well, there probably are thousands or perhaps millions of people who feel that this is the way it should be. Of course, these are the people who do not have and probably feel they cannot fulfill the requirements for the present amateur licenses.

The reason there is licensing on the basis of tests is because to have order on the radio spectrum, we need regulation. In order to have good operation, the operators need to know how to operate the equipment from a technical standpoint. Tests are set up to make sure that those who are going to operate on the radio spectrum have the necessary knowledge of both regulation and technical requirements.

Once we establish the need for testing and a licensing procedure, it really becomes a question of what the level of difficulty should be for the various amateur licenses.

There has always been argument as to what this level should be. The code requirement is certainly one point of contention. Why do we have to learn the code if we plan on using voice? This might seem like a good argument for eliminating the code requirement, but almost everyone who does pass the code test — at least at the 13 wpm level — feels that it was good they were required to learn the code. And CW is a good form of communication once it is learned. It does have a number of advantages, not the least of which is excellent signal to noise capabilities.

Some people I have talked to say that having the code is a way to keep people who are not really dedicated to Amateur Radio off the amateur bands. Those who go to the trouble of learning the code certainly show they have at least some dedication.

Of course, one could eliminate the code requirement and still limit entry into Amateur Radio by "beefing up" the technical written test. If we set the written test at a level that requires at least first year "calculus," there probably would not be very many radio amateurs.

So we are back to what should we require on the tests for obtaining an Amateur Radio license? More specifically, we should ask the question: what level should we require for operation on the phone sub-bands, especially the 20-meter phone band?

One solution would be to set the level high — say, Extra Class — for operation on phone on 20 meters. This of course would bring tremendous political pressure from the many amateurs who now can operate on the band with a lower class license and feel they cannot obtain the necessary skills for the Extra Class.

If we lower the standards and allow General Class and higher on the entire band, then there is little or no incentive to work for the higher class licenses.

Is this a "catch 22" situation? I suspect it is.

In the case of the present proposal, what will happen with the various classes of license? If the foreign phone does move down into what is called the CW band and no change is made to allow General and Advanced into the lower 25 kHz, these amateurs *will* be severely crowded.

On phone? Well, if the new 50 kHz segment is opened only to Extra Class, then many Advanced and General Class amateurs will not gain what they really want — the opportunity to work DX stations on "their own frequencies."

The question still remains — will the expansion really eliminate crowding on the band? After all, if there is less crowding, amateurs who presently do not work the band may be encouraged to do so.

What about the other HF bands? The FCC is asking this very question in its Notice of Inquiry. More on that next month. □

ARRL department helps members

The Membership Services Department (MSD) — headed by Hal Steinman, K1FHN — provides a wide variety of services to ARRL members. They range from legal and regulatory matters to public information, international affairs and hamfest and convention coordination. Special programs such as the QSL Bureau, radio insurance and help for handicapped amateurs are also available.

One of the growing areas of activity is in the "legal and regulatory" realm. Repressive zoning ordinances, antenna height restrictions and problems arising from RFI can all cause today's amateur sleepless nights.

— *Enid ARC, Enid, OK* □

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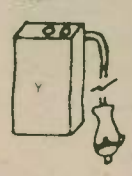

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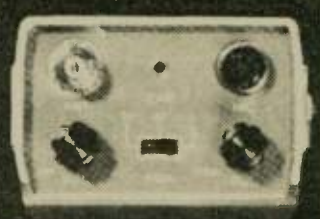

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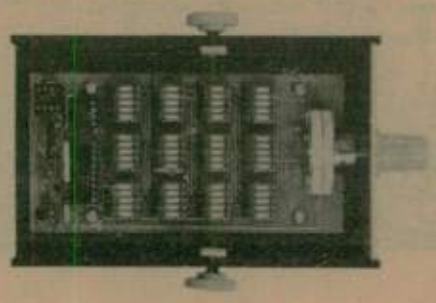

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DX WORLD

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6230 Rio Bonito Drive Carmichael, CA 95608

China!

As far as we know that BY1PK that has made an appearance is genuine. On 29 March, an operator named Tong was reported on 21.037 MHz between 0200 and 0300 UTC working Japanese stations. This was the operator's lunch hour.

Thomas Wong, VE7BC had received a letter from China detailing that this station was to come on with two Chinese operators, a YL included. It was reported in the Northern California DX Club newsletter that one Japanese amateur placed a long distance phone call to Peking and received confirmation that it was for real. Send your QSL cards to P.O. Box 6106, Beijing, PEOPLE'S REPUBLIC of CHINA.

Activities calendar

29-30 May	CQ Worldwide WPX Contest (CW)
12-13 June	South America Contest (CW)
19-20 June	All Asian Contest (SSB)

Refer to "Contest Calendar" in CQ Magazine for details. This is a monthly column by Frank Anzalone, W1WY, who keeps us abreast with the latest contest activities — both DX and domestic events.

Also coming up later this summer are the DARC Worked All Europe contests and the JARL All Asia CW Contest.

DXpedition calendar

Micronesia	04 Aug-08 Aug	KC6 by AD1S and N5DLM
Belau	08 Aug-11 Aug	KC6 by AD1S and N5DLM
Saipan	11 Aug-14 Aug	KH0by AD1S and N5DLM
Majuro	14 Aug-16 Aug	KX6 by AD1S and N5DLM

W-100-N

Six applications for **Worldradio's** Worked 100 Nations Award were processed this past period and are dated 5 April 1982.

168. DA1MV	Harvey Campbell
169. VS6CT	Philip J. Weaver
170. KA1RC	Richard C. Parker
171. W2UT	Adolph J. Uryniak
172. KD8V	Paul T. "Tom" Varney
173. WB9TNQ	Martin C. Schwamberger

Harvey is a Canadian stationed in West Germany with NATO. He became aware of this award when details were printed in the Awards Directory by Garry Hammond, VE3GCO. Over on the other side of the world we have Phil Weaver, VS6CT. It is not too often that we receive two DX applications at the same time.

Adolph likes the single band, single mode approach by working all of his required nations on 15-meter SSB.

AD1S and N5DLM Pacific DXpedition

George Adkins, AD1S and Vicki Allen, N5DLM will be visiting the Pacific this August and have submitted the following proposed schedule.

4-8 August: Federated States of Micronesia. This was previously the Eastern Caroline Islands. They will be operating from Yap Island.

8-11 August: Republic of Belau. This previously was referred to as the Western Caroline Islands and they will be operating from Koror, Palau.

11-14 August: Mariana Islands. George and Vicki will be on Saipan.

14-16 August: Marshall Islands, with operation from Majuro.

Two stations are planned with operation on both CW and SSB, 10 through 80 meters. Expenses for the trip will exceed $4,000, and individual contributions in any amount will be appreciated. All contributors will receive a photo postcard from Yap — "The Island of Stone Money" — as a token of appreciation. All QSL cards for this operation go to AD1S, P.O. Box 32735, Oklahoma City, OK 73123.

Easter Island (CE0)

Father Dave, CE0AE is the most popular representative for handing out Easter Island to the deserving. He has been reported on 28.023 MHz around 2000 UTC with a good signal into Europe. Stateside stations have worked him on the same band on 28.071 MHz at 1500 UTC.

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The dynamic range of the TR5 is unexcelled by any transceiver in its class. The TR5's greater than 0 dBm third order intercept point (85 dB two-tone dynamic range) at 20 kHz spacing can be achieved only by the use of a passive diode-ring double balanced mixer. Drake was the first to bring this technology to the Amateur market with a high-level mixer in the TR7.

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Father Dave has also been reported on 15 meters near 21.370 MHz from 2300 UTC. Check with the YL ISSBers on 14.332 MHz as he occasionally checks into the system. Send your QSL cards for CE0AE via Mary Crider, WA3HUP.

Marco CE0DFL has been reported on 7.073 MHz at 0715 UTC working into Europe. Bear in mind that at this part of the band, he will be on SSB.

The Colvins

The Colvins spent 24 days of operating from Montjoly, FRENCH GUIANA, using the call of FY0FOL. They operated all bands, both CW and SSB, and made 11,000 contacts.

They lived at the Beach House of Mario de Lepine, FY7YE, whom they had visited 25 years ago. They put up their antennas on the beach and at high tide, the base of their antenna mast would be in the Atlantic Ocean.

Mario FY7YE and Marcel FY7BW occasionally helped in the operation of Lloyd and Iris's station.

French Guiana was the first country they had visited in South America without posting a bond before their radio equipment could be taken into the country involved. The French countries require only that an Amateur Radio license to operate in such country be obtained in advance from France. The Colvins continued on to Curacao in the Netherlands Antilles as W6QL/PJ2.

If you worked one of the "Yasme" DXpeditions this winter, here is the couple that you worked. Lloyd W6KG and Iris Colvin, W6QL pose for their picture at their 9Y4KG operating position. Other calls used by the Colvins this season include 8P6QL, W6QL/8R1, W6KG/PZ1, FY0FOL and W6QL/PJ2. ***(Photo courtesy of W6KG)***

Trindade (PY0)

The Trindade DXpedition planned by Apollo Viana, PY1RR and Ray Pacheco, PY1DOQ was postponed from April to June. It will be a two-month operation.

PY0AC and PY0AD are reported to be the calls used by Apollo and Ray. They will be using all bands, 10 to 160 meters, with the usual split-frequency operation. The frequencies to check are 1.825, 3.800, 7.080 (listening above 7.200), 14.300, 21.300 and 28.500 MHz. On CW they will be operating at 25 kilohertz above the low end of the band.

Send your QSL cards for this DXpedition to Ricardo Carvalho, PY1VOY.

Tristan da Cunha (ZD9)

Andy ZD9BV is now active. He has been licensed since 1 March 1982, so is new to Amateur Radio and has been working the deserving DXer via the list route. Although Andy is new to Amateur Radio, he is not new to radio communications as he is an experienced commercial operator. He has appeared on the various list and net functions.

Try looking for him on 14.225 MHz on Mondays, 1600 to 1900 UTC; 21.338 MHz on Tuesdays, Thursdays and Fridays, 1800 to 2200 UTC, or 28.620 MHz on the same days and times. He is scheduled to be there for about two years and is to be joined by ZD9BW this August. Most likely, about that time Andy will probably become bored with list operations and will be working on his own.

Central African Empire (TL8)

Several stations are active from this one. Look for Chuck TL8CK, who has been reported on 14.210 MHz at 1500 UTC, 21.208 MHz at 1700 UTC and 28.511 MHz at 2100 UTC.

If you don't find TL8CK, try TL8CB, who has been reported near 14.265 MHz at 2000 UTC, or TL8DC near 28.505 MHz at 1900 UTC. Gigi TL8CR has been reported being worked in Europe on 7.001 MHz at 1930 UTC.

Seychelles (S79)

From the *Long Island DX Bulletin* came word that S79ARB and Bill Whitworth, S79WHW would be sporting new Thunderbird beams by early April. S79ARB is on a 1,000-foot crest overlooking the ocean. Other active stations there include S79MC, S79NLB and S79RD —

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New! Both 2.3 kHz ssb and 500 Hz cw crystal filters, and 9 kHz a-m selectivity are standard, plus provisions for two additional filters. These 8-pole crystal filters in conjunction with careful mechanical/electrical design result in realizable ultimate rejection in excess of 100 dB.

New! The very effective NB7 Noise Blanker is now standard.

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New! Mic audio available on rear panel to facilitate phone patch connection.

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R7A Receiver

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New! NB7A Noise Blanker supplied as standard.

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• **Front panel pushbutton control** of rf preamp, a-m/ssb detector, speaker ON/OFF switch, i-f notch filter, reference-derived calibrator signal, three agc release times (plus AGC OFF), integral 150 MHz frequency counter/digital readout for external use, and Receiver Incremental Tuning (RIT).

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• **ALTERNATE ANTENNA CAPABILITY.** The R7A's Antenna Power Splitter enhances the DSR feature by allowing the use of an additional antenna (ALTERNATE) besides the MAIN antenna connected to the TR7A (the transmitting antenna). All possible splits between the two antennas and the two system receivers are possible.

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* Patent pending

World Radio History

all active on 10, 15 and 20 meters. S79NLB has been reported worked on 14.322 MHz at 1645 UTC with S79ARB on 21.295 MHz at 1800 UTC.

Macquarie Island (VK0)

A good place to pick up VK0AN of Macquarie Island is "Open House" on 14.332 MHz around 1000 UTC. He shows up there a couple times a week. Open House is run by Heather VK2HD, and Jill Weaver, VK6YL, and may be at the wrong time for those of you who prefer to sleep at that time of the day. For you CW chaps, this operator will go to CW upon request.

VK0AN is active elsewhere and may be found on 14.210 MHz from 0700 UTC, 14.035 MHz from 0800 UTC, and 14.266 MHz at the same times. Several reports of his activity have been noted at various frequencies all within this time period.

McMurdo Base (ZL5)

Two new operators on McMurdo Base in the Antarctic are signing with ZL5BA and ZL5GH and are expected to be there for the rest of the year. As for DXCC status, McMurdo Base counts the same as the rest of the several spots down at the "South Pole" — just plain Antarctica. The ZL5 prefix should be of interest to prefix hunters. Send your QSL cards for these two stations via the ZL Bureau.

Singapore (9V1)

Peter Carbutt, 9V1TL has been appearing regularly on 14.225 MHz from 1600 UTC looking for stateside stations. Peter has also been heard up on 10 meters and has a good signal on both bands.

Also on from Singapore is 9V1VB who has been reported on 14.028 MHz around 1200 UTC and James Tan, 9V1UD on 14.033 MHz at 1400 UTC.

Malagasy Republic (5R8)

Look for Alain Loiseau, 5R8AL, who has been appearing weekly on Friday from 1800 UTC on 21.337 MHz. He will also provide a two-way CW contact on this frequency if requested. He has also been found on 21.280 MHz around 2000 UTC and on 7.060 MHz from 1730 UTC working Europeans. Alain expects to be there until October.

Bahrein (A92)

As of 1 March 1982, all stations in Bahrein using the A9X prefix are now signing with the A92 prefix. Stations such as A9XP or A9XCE are now using the call A92P and A92CE.

A92CE continues to be one of the more active stations from Bahrein. Check the low end of 20 meters near 14.005 MHz from 0300 UTC for this one.

A92F has been reported on 21.189 MHz at 0800 UTC working Europeans and on 28.630 MHz from 1445 UTC. Also check at the lower reaches of the SSB portion of 10 meters. Keith A92P has been reported on 28.730 MHz around 1300 UTC.

On 15 meters, A92NH has been reported on 21.285 MHz from 2200 UTC. He has also made an appearance on 75 meters on 3.795 MHz around 2230 UTC. Unfortunately, this time is of little use to stateside DXers.

This gentleman has been here before. Frank Langner, DJ9ZB is a regular contributor to this column from time to time. That plaque directly above the microphone was awarded to him by Worldradio for being the first European to qualify for W-100-N, and also the second amateur worldwide. His shirt is a plug for the Northern California DX Foundation!

Indonesia (YB)

Most of the deserving DXers have worked this one, but we are getting new DXers every day and the following list of Indonesian calls may be of use to the new deserving. As usual, frequencies are in megahertz and times are in UTC.

YB3MD	21.030	1400
YB5AES	14.020	1200
YB8AEG	14.225	1100
YB9ADE	7.005	0800
YB9ADE	14.024	1200
YB0ACL	21.290	1430
YB0ACL	28.540	1300
YB0EZ	7.003	1300
YB0PG	14.201	1300
YC8VL	21.180	1530
YC8WM	28.495	1230
YC0VM	21.025	0300

For island hunters, VC8VL and YC8WM are on Molucca Island, OC70 in Geoff Watts' IOTA Awards program.

PA0GMM Pacific Tour

PA0GMM has reported his statistics for his last Pacific tour with the following:

KX6ZX	1218
C21NI	740
YJ8VB	934
T2GMM	3164
T30BO	2906
T32AE	3233

If you haven't already, send your QSL requests directly to PA0GMM. And be sure to provide SAE and funds for return postage. It is a good policy to include one envelope for each call as often more than one manager is involved in completing QSL requests.

Navassa Island (KP1)

The KP2A/KP1 opened on schedule on 16 March giving out Navassa Island. As far as we know, there were no list operations, so if you were sitting by your favorite net, you did not work KP2A/KP1. The DXpedition, sponsored by the International DX Foundation, made about 32,000 contacts, with close to 22,000 of those made with stateside stations. The operating positions were on the south side of the island, making it difficult to work Europeans and Japanese.

Djibouti (J28)

Pierre Reissian, J28AZ is working near 14.225 MHz daily from 0400 UTC with J28AL being found around 28.592 MHz from 2100 UTC. Another active station reported is J28CI on 14.012 MHz at 2100 UTC.

Clubs

The Southern California DX Club has elected their officers for 1982, which include Jim Stevenson, KM6B, President; Neil Kaltman, K6SMF, Vice President; Don Moses, W6UY, Treasurer; and Joe Locascio, K5KT, Secretary. The club was responsible for the International DX Convention at Visalia this year.

The Sheboygan County DX Association was founded on 1 June 1974 by four DXers. A constitution was drawn up and was affiliated with the ARRL on 28 September 1974. The present officers include Marvin Bartz, W9MYG, President; Ken Claerbout, KE9A, Vice President; Chris Bauer, W9RF, Secretary-Treasurer; and Donna Menart, WB9ZBE, Activities Manager.

There are three classes of membership — full, associate and honorary. The full member must hold DXCC or WAZ; the associate member has yet to attain either award. Honorary membership is conferred by the club upon those individuals deemed worthy. Dues are $3 per year, and the group meets four times a year.

Newly elected officers of the Central California DX Club include Frank Clement, W6KPC, President; Bob Smith, W6GR, Vice President; and Leon Brammer, W6BYH, Secretary-Treasurer. This club was recently formed and is in the Visalia area; it is attractive to Central California DXers who find it rather difficult to attend meetings of the Northern and Southern California DX Clubs. The membership of the Northern California DX Club recently approved the creation of a club chapter in the Fresno-Madera area. We are not sure if this includes the Central California DX Club or an entirely separate group of DXers.

New officers for the Fort Wayne DX Association in 1982 are Dino Raptis, KB9MO, President; Ted Clifton, W9TC, Vice President; and Bill Gibbons, W9KBV, Secretary-Treasurer. Bill reports that there are 40 members in the club, three of whom are on the DXCC Honor Roll. Of these three, H. Don Wibel, K9ECE has all countries worked and confirmed. All members hold DXCC, and all hold ARRL membership.

Bill Freeland, AC0A has won the 1981 DXer of the Year Award, sponsored by the Kansas DX Association. The award is based on the number of countries worked during the year; Bill worked 257 countries. Close behind was Alan Fowler, W0UQD, who worked 254 countries. I bet these fellows didn't do this by getting on lists. Many clubs have similar awards to encourage intra-club competition in working DX.

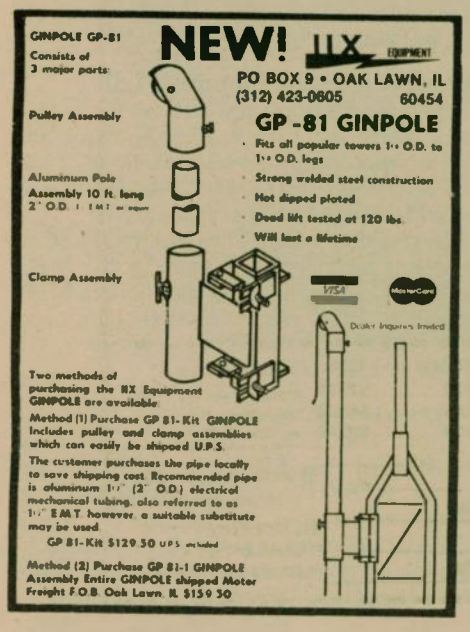
At the 1982 ARRL National Convention in Cedar Rapids, Iowa, 23-25 July, the Eastern Iowa DX Association will work with the DX programs. The DXers Breakfast will feature Bob Locher, W9KNI as speaker.

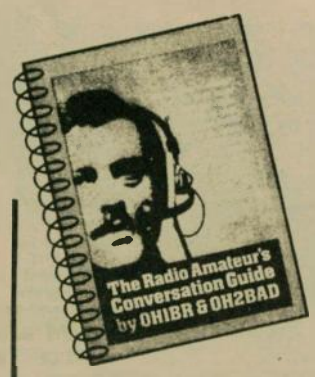
New officers for the Western Washington DX Club include Bob Hudson, K7LAY, President; Willis Propst, K7RS, Vice President; Florence Reitzel, KC7DU, Secretary; and Ellis Hamer, W7BQG, Treasurer. This club sponsors the Totem Award, for working amateurs in the state of Washington.

FCC

The FCC has issued a Notice of Proposed Rulemaking which would open up an additional 50 kilohertz for phone operation on 20 meters for Americans. The lower limit will be moved down to 14.150 MHz and is to be available to American radio amateurs, General Class and above. The remaining segments will remain the same.

As to my own personal comments, it seems rather strange to have a band unrestricted at the limits, but somewhere





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World Radio History

within the band being restricted to amateur Extra and Advanced Class licenses. Back in 1967, incentive licensing came into effect where several choice bands became restricted to lower class license holders. At the time, the type of American amateur seemed to be deteriorating, and the ARRL — being concerned — pushed for incentive licensing by having certain bands restricted to certain higher grade licensees. The bands were, indeed, restricted prior to the introduction of the Novice Class license.

Now for real incentive licensing, the 14.150 to 14.200 MHz segment should be opened to amateur Extra Class *only*, retaining the rest of the band as it is. The amateur Extras gain additional band space exclusively for themselves, and the other classes don't get hurt. They don't lose anything as they've never had that frequency segment in the first place, at least not in the past 30 years.

WJDXRC Award

The Worked Japan DX Radio Club (WJDXRC) Award is offered by the Japan DX Radio Club for working members of their club. All contacts must have been made since 29 July 1952. The minimum number of contacts required is five of their members and twice that number if you live in Japan.

Your QSL cards need not be sent. However, a certified list of contacts signed by two licensed amateurs will be accepted. With this list include a fee of 6 IRCs. If you choose to send your QSL cards to JDXRC for checking, the award is free. Be sure to include sufficient postage for the return of your QSL cards. Send your application to: JDXRC Award Manager; Ken-ichi Suzuki, JA3BG; 1601-2 Ohkubo, Ohkubo-cho; Akashi-city, 674; JAPAN.

There are around 100 members in the Japan DX Radio Club, and most likely their QSL cards will indicate if they are a member or not. Members are in all 10 call areas.

Mexico 50

This award is issued by the Mexico DX Club to licensed radio amateurs and SWL for confirmation of contacts with Mexican stations during 1982, on the celebration of the 50th anniversary of Amateur Radio in Mexico.

Mexican stations are using special prefixes where 6D5, 6E5, 6F5, 6G5, 6H5, 6I5 and 6J5 replace the prefixes XE1, XE2, XE3, XF1, XF2, XF3 and XF4, respectively.

To apply for this award, you must have collected at least 50 points with the point values as follows:

6D5MDX	10 points (Mexico DX Club station)
XF4MDX	10 points (Revillagigedo February DXpedition)
6J5LM	10 points (same as for XF4MDX)
6D5LM	5 points
Mexico DX Club members	3 points
Non-members with special prefixes	2 points
Mexican stations with normal call	1 point

Application must be sent to P.O. Box 21-167, Coyoacan 04000 DF, with a certified list of QSL cards and a fee of 15 IRCs (or $3 U.S.). Only 500 awards will be printed. Endorsements will be added if requested.

•••

Meet Sigurd Solheim, JW2CF, of Longyearbyen, on Spitzbergen (Norway). Sig, who is 53 years of age, started into Amateur Radio back in 1953 and was active for only one year. That was in Bergen, where he is shown here during the summer of 1978. In 1975 Sig again became interested in Amateur Radio, this time from Longyearbyen, after being away from the hobby for 20 years.

Sigurd Solheim, JW2CF and XYL at QTH in Bergen, 1978.

Sig returned home to Bergen during the summer of 1977 and made 1,300 contacts operating as LA2CF in 145 countries. This was over a period of about 18 months. He returned to Spitzbergen in August 1979. Since that time, he has made approximately 13,000 contacts in 1,975 countries with most of the contacts going to the United States and Japan. Sig has been giving out Svalbard as a new country to many of the deserving.

DX was born —

"Sixty years ago, Kenneth P. Warner — at that time Secretary of the American Radio Relay League and Editor-Business Manager of QST — boasted in print that should a knowledgeable, good, dyed-in-the-wool American "ham" be sent overseas with the very latest state-of-the-art receiver, signals from American amateur wireless stations should be copied from across the Atlantic Ocean.

"Consequently a plan suggested by Fred H. Schnell, Secretary of the 'League,' was adopted, and Paul F. Godley, probably the foremost receiving expert in America and member of the Institute of Radio Engineers and other prestigious organizations, was selected for the job. He was to take his latest designed 'Paragon' receiver overseas to the British Isles and make an effort to copy American hams.

The night was cold and the moon was old
And wearily moaned the sea.
Far out on the wings of a restless night
"CQ" was sent by key.

'Twas not the night wind's murmur
Nor was it the surge's cry,
Neither the eagle's screaming
Piercing the dark'ning sky.

'Twas wireless signals that Godley's crew
Heard, as hams ceaselessly called "CQ".
In Scotland they carefully logged each call
The spark of 8BU among them all.
His signals were faint but came in well,
Recorded in history by ARRL.

"Early in December 1921, Paul Godley and his crew reached Scotland; at the very edge of the sea, on bleak Ardrossan moor, amid fog and wet, a tent was erected in which the transatlantic receiving station was located. By midnight 7 December, the installation — batteries and all — had been completed. 8BU was among many hams on the air during that period, calling 'CQ' Godley, or perhaps just chewing the rag with a fellow ham and were inadvertently heard by Godley in Scotland.

"My old license, which still hands on the wall in my ham shack — dated 1921, says I was authorized to use a wavelength of 200 meters, but inasmuch as we hams have very primitive frequency measuring equipment, the frequency could be anything. Nothing mattered just so our loud, raucous spark signals did not splatter to 600 meters and jam the RCA commercial spark station CWX atop the Schofield building in downtown Cleveland. Often the operator there would chase us back down, threatening our ham existence via a visit from the "Radio Inspector" from the Department of Commerce, lurking downtown in the Federal Building somewhere. None ever arrived, but the warning from 'WCX' was enough to intimidate us. Mostly the operator there was a ham too, so none worried much.

"My license also authorized an antenna height of 30 feet and a length of 90 feet. It was an inverted 'L', as we called it, but now known as a long wire. It didn't make much difference what the length was just so the far end had a support from some tree, telephone pole, or some ham's local chimney, and we didn't wipe out 'WCX' downtown. My power was listed at 640 watts, which means that I was using spark. And my recollection is that in 1921 I did have a rotary spark station, as well as a UV204 50 watt outfit. The spark gap was driven by a ½kW Packard high-voltage transformer.

"I'll never forget the capacitor across this 15,000-volt behemoth, made out of a five-gallon 'Distillata' water bottle nearly covered on the outside with thin 'tin' foil and on the inside was about four gallons of good salty water. When the juice was applied, the capacitor lit up like the aurora borealis on an August night while the spark gap roared.

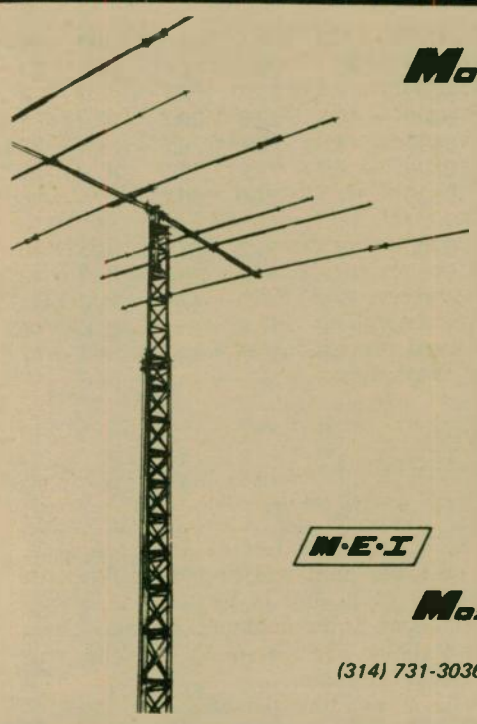
"It must have been a good night, for Godley did hear me way over on the other side — a real feat in those days, 60 long years ago, 13 December. I believe that, at 82, I am the only living participant in this first DX. Paul Godley died two or three years ago and Fred Schnell passed away in Florida last winter, I believe.

"So that is the story in short about those good old days. I can still recall a lot of stories of ham radio from about 1910. My first 'cat whisker,' one slider crystal detector, is in the ARRL Museum at Newington, if they haven't thrown it away. It was crude, to be sure, but it worked, I was only 11 years old."

Our thanks go to Jim Russell, W8BU of the Lake Erie Amateur Radio Association for this bit of nostalgia. We will have another article on old-time Amateur Radio DXing next time.

Antique QSL Department

Here are a couple more of those old Soviet cards from the pre-war days. Rudy



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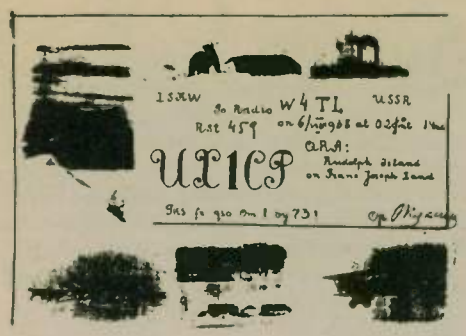
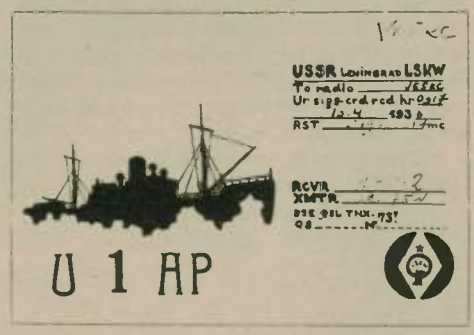


Bailes, W4TL submitted the UX1CP card for a contact he made with that station back in 1938. That was the call which was used from Franz Joseph Land on Rudolph Island. This is one of Rudy's favorite cards and says, "I am now awaiting QSL from UK1PGO for 8/21/81 contact, 43 years and 15 days after the UX1CP contact."

The U1AP card was submitted by Al Miller, VE7KC, a regular contributor to the Antique QSL Department. This station was located in Leningrad for the 14.0 MHz CW contact made in 1936 with Al's old call VE5KC. The card included a brown and green map which, unfortunately, did not reproduce here.



QSL routes

A35RF	—VK3VU	FY0DYP	—N0BQK
A92DD	—K7DVK	GB2BC	—VE7SAR
A92NH	—KA4S	GB4RNL	—G4HNL
C5ACA/AP	—AP2ASM	GU5DSD	—WA4WPO
DJ6SI/3X	—DJ6SI	HG5A	—HA5KDQ
C31LX	—EA3CBD	HG6V	—HA6KVP
C31SD	—PD0EJT	HI3J1F	—HI3JR
CE0DFL	—CE3YY	HL1SF	—JA6YBW
CS0OF	—WA3HUP	J3AVT	—W8UVZ
DK6NL/5N8	—DK6NL	J5HTL	—SM3CXS
DL6VY/9Q5	—DL6VY	J28AL	—F6ESH
EA8SK	—DJ1KM	J28OM	—F2GA
EK3B/2	—UV3FL *(See Note 1)*	J28AZ	—I8JN
		JH6SOR/JD1	—JH6SOR
EL8N	—SM4CWY	JR1YGP/JD1	—JR1VAY
EP2TY	—JR3WRG	JT1BG	—W7PHO
FG0BLO/FS7	—W4UY	K2GBH/KP2	—K2GBH
FO8IK	—F6GXB	K5NA/KP2	—W4JVN
FO0BB	—SM2EZE	K8WW/VP9	—K8WW
KC4XR/C6A	—NS4M	VP8MT	—JG3QZN
KF1O/CE0X	—WA2IZN	VU2YOU	—K4YT
KG4QQ	—WB1GQQ	WB8LDH/J3	—WB8LDH
KH0AC	—K7ZA	XZ9A	—JA8IXM
KP2A/KP1	—WB2MSH	YB5AES	—W4BBP
KP2G	—KM5D	ZB2DX	—G3UAZ
KP4CC	—KP4EHB	ZC4AK	—G3VHE
LG5LG	—LA2ZN	ZD9BV	—W4FRU
OE5BS/5N7	—OE5RI	ZF2CK	—WB9QPN
OK7MM	—OK3TMF	ZF2FP	—N8OSR
OZ7GI/5N9	—OZ7GI	ZF2FQ	—AB8Y
P29MF	—G3XEF	ZF2FR	—KJ8G
P29PS	—P29NPS	ZF2FU	—W2LZX
PP2ZOD	—W4BAA	ZF2FV	—WD8MRF
PY0T	—PY1VOY	ZK2BB	—VK3VU
S79MC	—AK3F	ZL0AEO	—WB8WMS
S79NLB	—S79WHW	ZL0AEX	—K8V1R
S79RD	—S79WHW	ZM7VU	—F6DYG
T30KC	—W5RBO	1A0KM	—I0MGM
T32AB	—N7YL	3D2WR	—JH7OHF
TL8CK	—F6EWM	4N1NB	—YU1FJK
TL8DC	—F6EWM	4S7AV	—8Q7AV
TL8MX	—F6FFR	4X6FY	—KT2D
TU2LE	—F1BWI	5B4KV	—SM5OV
V2AAW	—N6NK	5R8AL	—WA4VDE
VK9ZD	—VK3DHF *(See Note 2)*	5T5AY	—W4LZZ
		5V7RE	—DJ5RT
VK0DX	—VK7LJ	5W1DW	—VK3VU
VP2E	—K8ND	5Z4CX	—G3ZVK
VP2EDX	—WA8CZS	8P6EZ	—W1RED
VP2ELP	—WA1GSO	8P6OR	—K5MHZ
VP2MM	—AB1U	9G1LM	—W2TK
VP2MMP	—N0DH	9J2TY	—JH3DPB
VP2VA	—VE3MJ	9M8WR	—G4DXC
VP2VHI	—K0IJL	9N1NFO	—WB4NFO
VP2VHV	—K9BJ	9X5SL	—DL8DF
VP8AEF	—KA5IRZ		

GJ6UW —P.O. Box 146, Cambridge, ENGLAND
S79ARB —P.O. Box 710, Victoria, Mahe, SEYCHELLES
YC8VL —P.O. Box 30, Ambon, Ceram, INDONESIA
YC8WM —P.O. Box 41, Ambon, Ceram, INDONESIA
ZY3HMC —Golden Gate QSL Bureau, 71 Surrey Street, San Francisco, CA 94131
ZY3ZZ —Golden Gate QSL Bureau, 71 Surrey Street, San Francisco, CA 94131

NOTES:

1. As for all QSL cards for the Soviet Union, they should be sent to P.O. Box 88, Moscow, USSR. This includes Soviet QSL managers.
2. Jill VK6YL also handles cards for this station. If you still haven't sent for your VK9ZD QSL card, request your card via VK3DHF, the former operator.

Contributors to this month's column include AD1S, W2OOJ, W4TL, W6GO, W6KG, W6QEU, W6QL, DJ9ZB,

Propagation

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JULY 1982

UTC	AFRI	ASIA	OCEA	EURO	SO AM
0100	20.1	22.2	30.2	18.0	24.1
0200	17.8	22.3	29.7	17.2	24.2
0300	16.8	22.8	29.8	16.6	23.2
0400	19.8	22.5	29.9	16.4	22.0
0500	18.7	21.2	28.5	16.9	20.9
0600	17.1	19.9	26.4	17.4	18.9
0700	15.3	19.5	23.4	16.5	16.1
0800	13.5	19.6	20.3	15.3	13.9
0900	12.2	19.0	17.5	14.2	14.0
1000	11.9	17.8	15.4	13.6	16.8
1100	12.5	16.5	14.4	13.7	17.2
1200	13.7	15.7	14.0	14.6	17.3
1300	15.3	15.7	13.8	16.2	19.2
1400	16.9	16.8	14.0	18.1	21.7
1500	18.0	19.0	14.6	19.6	22.8
1600	18.4	20.2	14.8	20.2	22.5
1700	18.5	20.0	13.7	20.4	22.7
1800	18.9	19.9	12.4	20.8	24.5
1900	19.5	20.2	13.5	21.4	26.5
2000	19.7	21.9	17.7	21.5	27.1
2100	19.9	23.8	23.3	21.0	26.7
2200	20.3	23.9	27.8	20.2	25.0
2300	20.9	23.6	30.2	19.4	23.4
2400	21.6	22.8	30.7	18.7	23.3

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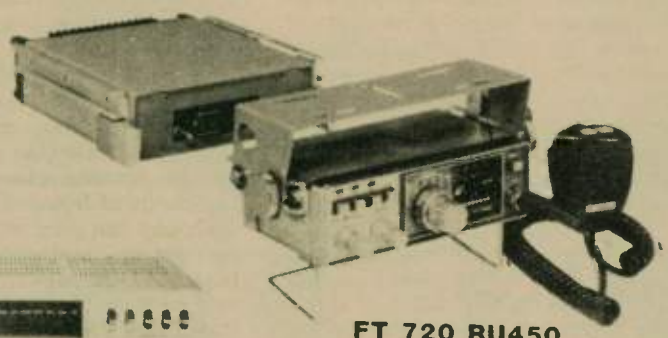

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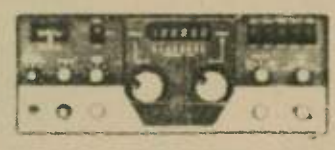

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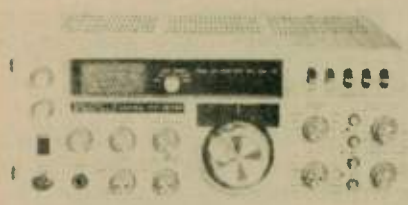

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World Radio History

JA2KLT, VE7KC, Lake Erie Amateur Radio Association, Southern California DX Club, Kansas DX Association, *Amateur Radio ('How's DX', VK3AH), The DX Bulletin, The Long Island DX Bulletin, DX News Sheet,* and *DXpeditions International.* Your support is very much appreciated.

DXers come from all walks of life. It was brought to my attention recently that we have a "seasonal" DXer with us. One Joe Rudy, WA6PVA, when not chasing DX, is with the Oakland A's running around the ball field. Maybe DXpeditions should be coordinated to be in the winter only. Now do we have a football player who is a DXer? Hope all your summer DX is good and you catch some good ones. Don't strike out and don't let the sun get in your eyes! 73 es GL DX, de John, N6JM. □

JA amateur meets U.S. ham friends

Art Lewis, W3TV

A recent visitor to my shack was Tack Kumagai, JE1CKA from Tokyo, Japan. I was one of his sponsors to the "FOC" group a few years ago. We had QSO'd a number of times on 14 MHz, as well as on 7 MHz. His English was good and the QSOs were more than just the "hello-goodbye" type heard so often.

Tack Kumagai, JE1CKA of Tokyo, Japan

In a QSO in the spring of 1981, he mentioned that he would be attending the FOC dinner at Danbury, Connecticut and hoped he could meet me there. Then one day while F.T. Hine, VK2QL was operating the station of W3TV during his visit here in Indiana, Pennsylvania, Tack broke in at the end of another QSO we were having on 21 MHz. He said he would be in Los Angeles the following morning and was looking forward to seeing us in Danbury.

There were over 100 members present at the dinner. Some came from Europe, others from Australia, South America, etc., but most were from the USA. There were five continents represented. Tack's itinerary took him from Los Angeles to New York; Danbury; Boston (with stops at amateur's QTHs near there); Washington, D.C.; Chicago, Lexington, Kentucky; Houston, Texas; Seattle, Washington; and Indiana, Pennsylvania.

While he was here, I asked him what he thought of our United States. He said, "I haven't seen much of it yet!" In that trip alone, he saw more of this country than many U.S. citizens ever bother to see. I asked him how he developed his English so well. He studied French in college in the hopes of learning another language he could use. Then he discovered only a few know French! One thing that drew him to Amateur Radio was the opportunity of talking with other amateurs in English. He learned it all this way! How would you like to try to learn Japanese by talking to them on the air?

Tack is single, is employed in nuclear physics, and edits a DX news column in a JA magazine.

— *Indiana County ARC, PA* □

Truly international

The 'round-the-world impact of Amateur Radio was never more in evidence than when I opened my mail the other morning. One letter which came in was written 21 March in Lesotho, Africa. Here's the letter:

"I am a radio amateur stationed in Maseru, the capital of Lesotho (an African country surrounded by South Africa) as a Foreign Service Officer with the U.S. Embassy. I was brought up in Metuchen (MHS Class of '70) and I was very pleased to read of the Metuchen ARC plaque presented to you by George Russell.

"As a freshman at MHS, Mr. Russell introduced me to Amateur Radio through many Saturday afternoons of expert and patient instruction. K2YNT was then on the top floor of the Metuchen YMCA and the focus of Novice classes, 80 through 2 meters and even SSTV experiments (1967-1970).

"Under Mr. Russell's direction, many fledgling amateurs were launched on a lifelong interest in the world around them. For me, it led to a career in the diplomatic corps and the opportunity to operate from exotic DX locales such as Lesotho (as LP8CG).

"I hope this note helps to remind us that the efforts of only one truly dedicated man can touch hundreds of lives and enormously enhance international understanding.

"ED MICHAL, KB3R."

— *The Home News, NJ* □

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Hands across the sea

Pete Taylor, VK2DAB

What is Amateur Radio? Is it sitting in pile-ups, thumping it out for that elusive DX station, or the dedicated QRPer trying for the Miles per Watt record? Is it the maritime mobiles keeping contact with their loved ones? Amateur Radio is all this and more, but the greatest thrill the hobby can give is a personal "eyeball QSL"—the first face-to-face meeting of an old friend of the "airwaves" from the other side of the world.

One such occurrence has happened to me and believe me, it is the richest experience an amateur can get from his hobby.

My story starts in 1977, when as a Novice I would make an occasional furtive attempt at working DX on my very rough CW fist (with the aim of increasing speed to upgrade the ticket), and as my speed and "fist" were nothing to get excited about, I found a haven . . . the U.S. Novice bands where I found that when I called "CQ de VK2NPI" at 7-10 wpm, I received a reply—gratefully at the same speed, not 25 wpm.

I had an answer to a CQ one day which proved to be Dick Brinkman, KA6AHD—also a Novice—and I learned that I was Dick's first DX and his first VK (Dick had worked a lot of USA but not VK), so we ragchewed as much as our limited CW allowed us and made a sked for the next week.

I mailed my QSL card direct (as did Dick) to Simi Valley and we both put a few notes with the card. It appears Dick and I were the same age and with each of us having a young family, each found we had a lot in common.

We made contact fairly often and also corresponded, exchanged a few photos and generally kept in touch. (I might add that Dick only sent photos of his shack!)

The *big* news happened in November 1978 when KA6AHD became N6AYV and VK2NPI became VK2DAB . . . we both made the UPGRADE in the same month. Now the skeds came thick and fast on the newly shared phone bands and the ragchews grew longer. I felt a great friendship for N6AYV that one only builds up rarely on the air, despite the many great guys one meets on "air."

The chance to meet Dick in person came in October 1980, when, after selling the business I was in, I had a chance to have a short trip to the United States with my family before starting a new venture; so with Lucy (YF) and harmonics Brad (12) and Anita (8) in tow, we headed "Stateside" armed with a TR2400 and a FCC Permit, and took on a rush "West Coast" holiday.

The moment finally came in downtown Los Angeles when, after talking "in" Dick on 2 meters, I was greeted with what could only be called my double. A short, stout (Lucy and Caroline refer to it as "cuddly"?) bearded guy with a big smile. I couldn't believe it—here was my "airwaves" mate Dick, N6AYV.

We were whisked away to Dick's QTH in Simi and the families got together—the kids exchanging stories, the wives becoming good friends with new-found common interests.

Our stay in the USA was short, but made memorable by the hospitality, the trips here and there, the Halloween dinner we had never experienced before, Caroline's pumpkin pie (we "bake" it "down under"), the trips to the other Simi shacks, the many icy cold beers (a habit which Dick enjoys and VK's are known for) and the general good will generated by the Brinkman family.

Well, we went home to Griffith in Aussie and the skeds continued with renewed vigour, and then one Saturday, Dick dropped the bombshell. "Pete, I think I'll take you up on the offer. We are coming down to Aussie for a holiday."

At last a chance to return some hospitality and a chance to give Dick a few good Aussie beers and to work a bit of DX "VK" style.

Our skeds became more and more frequent until 11 August, and there I was waiting outside customs at Sydney Airport waiting for that familiar smiling mug when I got a tap on the shoulder and there they were—the Brinkmans: old N6AYV himself and Caroline, John (14), Ann-Marie (12), Pete (11), and Matt (7) on the VK soil. It was a great feeling.

The three weeks flew. The kids played Aussie games, went to school for a day, the wives talked ladies' "talk" constantly, and Dick (now VK2DTC) and I worked DX and drank a few beers.

Graeme, VK2DGW took the Brinkmans to Canberra (VK1) for a look at the capitol and visits to Melbourne, Ballarat and to Maurie VK2NQW's wheat farm and the last days were coming up fast.

The farewell was a very sad one for all of us as our "Yank" (Americans are fondly referred to as "Yanks" in VK wherever they come from in the USA) family left.

Our big happy family of 10 became only four again; even the family dog moped that night. But we'll meet again; in fact, every Saturday (almost) we'll trade wisecracks, spin a few yarns, talk about Amateur Radio, and, most important—we'll "De-Gas an 807" (that's VK talk for opening a beer) whilst we cement the bonds of friendship that our wonderful hobby can give. Who knows, we might just get up "stateside" again and as my old mate Dick says, "Well, what can I tell ya!"

de Pete, VK2DAB

P.S. A good friendship has developed between the Simi Settlers Radio Club and the Griffith Radio Club as quite often, various stations both sides of the Pacific drop in to say a few words. Dick and I are hoping to have an "On-Air" interclub visit between the two clubs with all operators in both clubs having a QSO party with a difference.

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The TS-930S is a superlative, high performance, all-solid state, HF transceiver keyed to the exacting requirements of the DX and contest operator. It covers all Amateur bands from 160 through 10 meters, and incorporates a 150 kHz to 30 MHz general coverage receiver having an excellent dynamic range.

Among its other important features are, SSB slope tuning, CW VBT, IF notch filter, CW pitch control, dual digital VFO's, CW full break-in, automatic antenna tuner, and a higher voltage operated solid state final amplifier. It is available with or without the AT-930 automatic antenna tuner built-in.

TS-930S FEATURES:

- **160-10 Meters, with 150 kHz - 30 MHz general coverage receiver.**
  Covers all Amateur frequencies from 160-10 meters, including new WARC, 30, 17, and 12 meter bands, on SSB, CW, FSK, and AM. Features 150 kHz - 30 MHz general coverage receiver. Separate Amateur band access keys allow speedy band selection. UP/DOWN bandswitch changes in 1-MHz steps. A new, innovative, quadruple conversion, digital PLL synthesized circuit provides superior frequency accuracy and stability, plus greatly enhanced selectivity.
- **Excellent receiver dynamic range.**
  Receiver two-tone dynamic range, 100 dB typical (20 meters, 500 Hz CW bandwidth, at sensitivity of 0.25 μv, S/N 10 dB), provides the ultimate in rejection of IM distortion.
- **All solid state, 28 volt operated final amplifier.**
  The final amplifier operates on 28 VDC for lowest IM distortion. Power input rated at 250 W on SSB, CW, and FSK, and at 80 W on AM. Final amplifier protection circuit with cooling fan, SWR/Power meter built-in.
- **Automatic antenna tuner, built-in.**
  Available with AT-930 antenna tuner built-in, or as an option. Covers Amateur bands 80-10 meters, including the new WARC bands. Tuning range automatically pre-selected with band selection to minimize tuning time. "AUTO-THRU" switch on front panel.
- **CW full break-in.**
  CW full break-in circuit uses CMOS logic IC plus reed relay for maximum flexibility, coupled with smooth, quiet operation. Switchable to semi-break-in.
- **Dual digital VFO's.**
  10-Hz step dual digital VFO's include band information. Each VFO tunes continuously from band to band. A large, heavy, flywheel type knob is used for improved tuning ease. T.F. Set switch allows fast transmit frequency setting for split-frequency operations. A=B switch for equalizing one VFO frequency to the other. VFO "Lock" switch provided. RIT control for ±9.9 kHz receive frequency shift.
- **Eight memory channels.**
  Stores both frequency and band information. VFO-MEMO switch allows use of each memory as an independent VFO, (the original memory frequency can be recalled at will), or as a fixed frequency. Internal Battery memory back-up, estimated 1 year life. (Batteries not Kenwood supplied).
- **Dual mode noise blanker ("pulse" or "woodpecker").**
  NB-1, with threshold control, for pulse-type noise. NB-2 for longer duration "woodpecker" type noise.
- **SSB IF slope tuning.**
  Allows independent adjustment of the low and/or high frequency slopes of the IF passband, for best interference rejection.
- **CW VBT and pitch controls.**
  CW VBT (Variable Bandwidth Tuning) control tunes out interfering signals. CW pitch controls shifts IF passband and simultaneously changes the pitch of the beat frequency. A "Narrow/Wide" filter selector switch is provided.
- **IF notch filter.**
  100-kHz IF notch circuit gives deep, sharp, notch, better than -40 dB.
- **Audio filter built-in.**
  Tuneable, peak-type audio filter for CW.
- **AC power supply built-in.**
  120, 220, or 240 VAC, switch selected (operates on AC only).
- **Fluorescent tube digital display.**
  Fluorescent tube digital display has analog type sub-scale with 20-kHz steps. Separate 2 digit display indicates RIT frequency shift.
- **RF speech processor.**
  RF clipper type processor provides higher average "talk-power," plus improved intelligibility. Separate "IN" and "OUT" front panel level controls.
- **One year warranty.**
  The TS-930S carries a one year limited warranty on parts and labor.

Other features:

- SSB monitor circuit, 3 step RF attenuator, VOX, and 100-kHz marker.

Optional accessories:

- AT-930 automatic antenna tuner.
- SP-930 external speaker with selectable audio filters.
- YG-455C-1 (500 Hz) or YG-455CN-1 (250 Hz) plug-in CW filters for 455-kHz IF.
- YK-88C-1 (500 Hz) CW plug-in filter for 8.83-MHz IF.
- YK-88A-1 (6 kHz) AM plug-in filter for 8.83-MHz IF.
- MC-60 (S-8) deluxe desk microphone with UP/DOWN switch.
- TL-922A linear amplifier.
- SM-220 station monitor.
- HC-10 digital world clock.
- HS-6, HS-5, HS-4 headphones.

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TR-2500

BIG performance, small size, smaller price!

The TR-2500 is a compact 2 meter FM handheld transceiver featuring an LCD readout, 10 channel memory, lithium battery memory back-up, memory scan, programmable automatic band-scan, Hi/Lo power switch and built-in sub-tone encoder.

TR-2500 FEATURES:

- Extremely compact size and light weight 66 (2-5/8) W x 168 (6-5/8) H x 40 (1-5/8) D, mm (inches), 540 g, (1.2 lbs) with Ni-Cd pack.
- LCD digital frequency readout, with memory channel and function indication.
- Ten channel memory, includes "M0" memory for non-standard split frequencies.
- Lithium battery memory back-up, built-in, (estimated 5 year life) saves memory when Ni-Cd pack discharged.
- Memory scan, stops on busy channels, skips channels in which no data is stored.
- UP/DOWN manual scan in 5 KHz steps.
- Repeater reverse operation.

CONVENIENT TOP CONTROLS

- 2.5 W or 300 mW RF output (HI/LOW power switch.)
- Programmable automatic band scan allows upper and lower frequency limits and scan steps of 5 KHz and larger (5, 10, 15, 20, 30 KHz . . . etc) to be programmed.
- Built-in tuneable (with variable resistor) sub-tone encoder.
- Built-in 16 key autopatch encoder.
- Slide-lock battery pack.
- Keyboard frequency selection across full range.
- Extended frequency coverage; 143.900 to 148.995 MHz in 5 KHz steps.
- Optional power source, MS-1 mobile or ST-2 AC charger/ power supply allows operation while charging. (Automatic drop-in connections.)
- High impact plastic case.
- Battery status indicator.
- Two lock switches for keyboard and transmit.

STANDARD ACCESSORIES:

- Flexible rubberized antenna with BNC connector.
- 400 mAH heavy-duty Ni-Cd battery pack.
- AC charger.

OPTIONAL ACCESSORIES:

- ST-2 Base station power supply and quick charger (approx. 1 hr.)
- MS-1 13.8 VDC mobile stand/ charger/power supply.
- TU-1 Programmable "DIP switch" (CTCSS) encoder.
- SMC-25 Speaker microphone.
- LH-2 Deluxe top grain cowhide leather case.
- PB-25 Extra Ni-Cd battery pack, 400 mAH, heavy-duty.
- BT-1 Battery case for AA manganese or alkaline cells (not Ni-Cd).
- VB-2530 RF power amplifier.
- BH-2 Belt hook.
- WS-1 Wrist strap.
- EP-1 Earphone.

TR-7850

40 W, 15 memories/offset recall, scan, priority, autopatch (DTMF)

Kenwood's remarkable TR-7850 2-meter FM mobile transceiver provides all the features you could desire, including a powerful 40 watts output. A 25 watt version, the TR-7800 is also available.

TR-7850 FEATURES:

- 40 watts output, with selectab e high or low power operation.
- 15 multifunction memory channels, easily selectable with a rotary control, M1-M13 . . . memorize frequency and offset (±600 KHz or simplex).
- M14 . . . memorize transmit and receive frequencies independently for non-standard offset. M0 . . . priority channel, with simplex ±600 KHz or non-standard offset operation.
- Internal battery back-up for memories. Requires four AA Ni-Cd batteries, (not supplied).
- Extended frequency coverage, 143.900-148.995 MHz in 5 or 10 KHz steps.
- Priority alert. Beep alerts operator when signal appears on priority channel.
- Built-in autopatch encoder (DTMF). All 12 plus four add tional DTMF signaling tones. (With simultaneous push of REV switch.)
- Autoscan of memories and entire band. Scan resumes automatically.
- Front panel keyboard.
- Compact size.
- UP/DOWN manual scan of entire band and memories, using UP/DOWN microphone (supplied).
- Repeater reverse switch.
- Separate digital displays for frequency and memory channel.
- LED S/RF bar meter.
- Tone switch.

Matching accessories for fixed station operation:

- KPS-12 power supply (for TR-7850)
- KPS-7 power supply (for TR-7800)

SP-40

Compact mobile speaker
Only 2-11/16 W x 2-1/2 H x 2-1/8 D (inches)
Handles 3 watts of audio

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World Radio History

AMSAT OSCAR

Dr. Norman L. Chalfin, K6PGX

FLASH!

In connection with the new Phase IIIB "bird," TEN-TEC showed at Dayton the prototype of a moderately priced, 10-watt satellite rig. A 435 MHz transmitter and a 144 MHz receiving converter are contained in a single compact package. Only your 10-meter receiver is needed to complete the station. Price will be $489 with production planned for launch date.

Phase IIIB launch delayed again

The Phase IIIB AMSAT Amateur Spacecraft launch which has been twice delayed has again been delayed to 28 September 1982 because a problem with the launch vehicle, the ESA *Ariane*, has developed.

AMSAT/Project OSCAR meeting

Dr. Tom Clark, W3IWI, President of AMSAT, was the principal speaker at a brunch meeting at the end of March, held in El Segundo, California. He discussed various aspects of the AMSAT projects currently in work, the SYNCART, the Phase IIIB, the cooperation with various other AMSAT organizations throughout the world, the financial requirements of AMSAT, and some of the recent additional grants received. The ARRL, for example, has announced its intention to provide an additional $10,000 to the ARRL Foundation Amateur Space Program Matching Fund. The Foundation last year presented a check to AMSAT in the amount of $60,000 to help finance the Phase IIIB Project.

Tom brought along the first of a series of AMSAT videotapes along, which was shown to the members present on a VHS videoplayer. A library of such tapes is being set up for meetings and other public presentations. Access to the library is open to all members of AMSAT. A $25 deposit will be expected for each tape loaned, to be refunded on return of the tape, less a small fee.

Full details may be obtained from the AMSAT videotape librarian Roger Johnson, WB0GAI, 1627-36th Ave. Court, Greely, CO 80634. Please send an SASE or, if from a foreign source, send IRCs and a mailing label.

The tape presented at the meeting was produced by Jim Tumilty, W4MID and others describing AMSAT activities and the Amateur Space Program.

Phase IIIB ground station requirements

(From ASR Report 12 April 1982)

Tests of the Phase IIIB transponders at Marburg, West Germany have yielded some preliminary indications of what the specifications of a typical ground station will be. The following is a loose translation of the communication from the AMSAT DL Lab at Marburg.

"U Transponder" (Also called Mode B; 70cm up, 2m down)

"This transponder requires 21.5dBW EIRP uplink for a 20dB signal to noise ratio (S/N) at the specified range to the satellite. This calls for a transmitter power of 10 watts to a 12dBi antenna. For reception, an antenna of at least 10dBi gain should be used. (Assumes receive noise figure of 5dB and bandwidth of 2.4 kHz.) In a satisfactory receive station the engineering beacon should appear at a 17dB S/N ratio.

"L Transponder" (Also called Mode X; 24cm up, 20cm down)

"This transponder requires 28.8dBW EIRP uplink for a 20dB S/N ratio at the specified range to the satellite. This calls for a transmitter power of 3 watts into a 24dBi antenna or 50 watts to a 12dBi antenna. For reception, an antenna with at least 13.5dBi gain should be used. (Assumes receive noise figure of 3dB and bandwidth of 2.4 kHz.) In a satisfactory receive station the engineering beacon should be 17dB above the noise.

"All antenna gain figures assume the antennas employed are Right Hand Circularly Polarized. If linearly polarized antennas are used on the ground, an additional 3dB is required. In addition, if linear polarization is used, somewhat more fading is to be expected."

These figures are moderately more optimistic than previous estimates given. The net effect is the requirements levied on ground stations are reduced a bit. That is, for a given S/N ratio and receiver noise figure, the uplink power requirement has been reduced. The final recommendations for ground station capabilities will be made once the spacecraft is in orbit and engineering tests have been completed. Also, one should take note that the effects of downlink fading for a station using linearly polarized antennas may vary from "noticeable" to "intolerable."

Project OSCAR calendars

Project OSCAR announces the availability of a new set of Amateur Radio satellite orbital predictions. This set of predictions is bound in a single volume and covers the period of 1 May to 31 December 1982. Listed are the UTC times and longitudes to *all* south to north equatorial crossings for AMSAT/OSCAR 8 and the six Russian Radio Satellites. To offset the large expense incurred to produce and disseminate a calendar of this magnitude a donation of $8.75 U.S. is requested for each copy of the calendar. To receive your copy, send a mailing label and a check or money order payable to Project OSCAR, Inc., P.O. Box 1136, Los Altos, CA 94022. This price includes the cost of mailing within the United States, Canada and Mexico. This new calendar will replace the usual quarterly predictions which Project OSCAR, with the support of Henry Radio, has made in the past.

UoSAT is not covered because of the intractable nature of the orbit; it's just not possible to reliably predict its motion and position more than a few weeks hence.

JPL amateurs provide shuttle communication

During the third shuttle mission (STS-3) by special arrangement, the Amateur Radio Club of the Jet Propulsion Laboratory (JPL) in Pasadena, California transmitted shuttle capcom and astronaut audio from time to time over the club station W6VIO. These transmissions were picked up and relayed by other amateurs all along the West Coast via amateur repeaters and links. Hams from the Mexican border to Canada listened and have reported avid public interest in the shuttle activity. KTTV Channel 11 in Los Angeles included a sequence on the LA 11 news at 10:00 p.m., 25 March and at 11:30 a.m. on 26 March. The amateur frequencies used were in the 2m band, the 1¼-meter band and in the 70cm band. The Houston area amateurs transmitted the signals in the HF bands.

As a result of the KTTV news program, many calls were received at JPL requesting more information about the astronauts and the shuttle activity. Scanner users were setting their equipment to receive the amateur stations. Quite a few young people called in to ask how they could get in on the amateur hobby, and it was explained to them that this would require study and acquiring code skills. One high school student was going to become an amateur because of the shuttle transmissions.

The PR for Amateur Radio certainly was in the best interests of the hobby. We hope the budget cutters in Congress will appreciate the considerable interest in and support for space research and projects which still exist among the people of the United States.

Quasar identified

Development of a method of configuring the 34m and 64m antennas at

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5 through 40 WPM

10:30 AM MDST 7098 kHz

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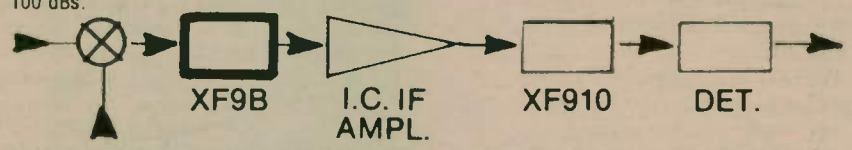
The XF-9B crystal filter is the heart of good, modern receiver (and transceiver) designs. It is used between the mixer stage and the IC IF amplifier stage to suppress adjacent channel interference by over 100 dBs.



The XF-9B can also be used to upgrade older receiver designs which use vacuum tube or discrete transistor IF amplifier stages. **PRICE $68.60** plus shipping.

Specification XF-9B

Centre Frequency	9.0 MHz	Shape Factor 6:60dB	1.8
Bandwidth	2.4 KHz	6:80dB	2.2
Passband Ripple	◄2.0 dB	Ultimate Attenuation	100 dB
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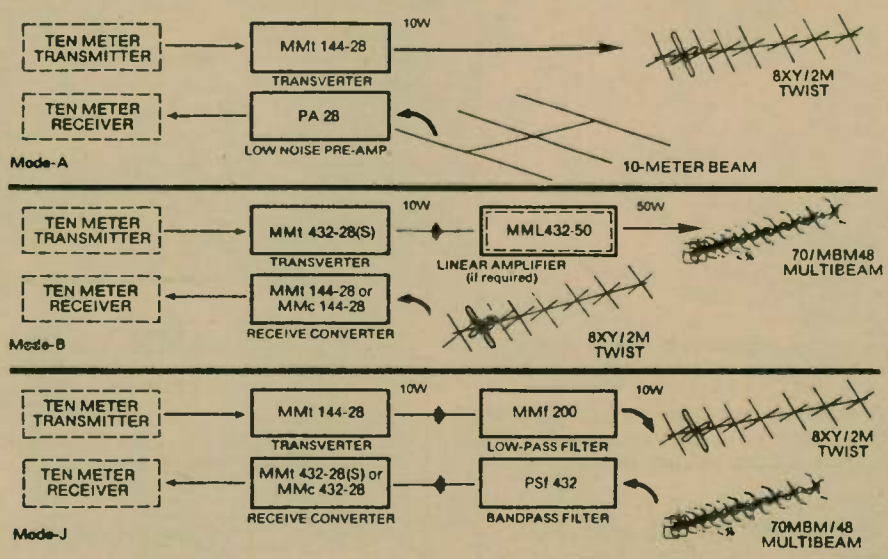

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World Radio History

Goldstone near Barstow, California, as an S-band interferometer provides an effective aperture of 200 meters. This technique was used by a team of JPL and Australian radio scientists in 1980 and 1981 to refine the position of between 250 and 500 radio sources in the southern hemisphere that were included in the Parkes Radio Observatory survey at 2.7 GHz.

As a result of this accurate positioning, the Anglo-Australian Observatory (Siding Springs, Australia) was able to optically identify a dim quasar as the counterpart of a Parkes radio survey object. Calculations based on the redshift of the wavelength of the quasar light indicate that the quasar is some 18 billion light years from Earth. This is the most remote known object in the universe, by a wide margin. This qualifies as the longest path DX reception yet! □

Staff appointments

AMSAT President Tom Clark, W3IWI has announced the appointments of three prominent AMSAT leaders to new staff positions. Wray Dudley, W8GQW has been named AMSAT Net Manager. Wray will be responsible for planning, coordinating, scheduling, publicizing and staffing all official AMSAT nets. Wray's appointment is effective immediately. He currently has responsibilities on the AMSAT International Nets on 20 and 15 meters. Wray has been an active AMSAT member for a number of years and resides in Troy, Ohio. In his new capacity, Wray will report to Operations Vice President Richard Zwirko, K1HTV.

Jim McKim, W0CY has been appointed Chief Area Coordinator for U.S./Canada. Jim was one of AMSAT's earliest Area Coordinators and currently is NCS (Net Control Station) of the AMSAT Mid-America 75-meter net. Jim was spotlighted in *ASR* #12, 27 July '81. W0CY will coordinate the activities of the Area Coordinators in the United States and Canada, with special emphasis on improving communications and motivation in the corps. Jim also reports to Operations VP K1HTV in his new capacity. Jim lives in Salina, Kansas.

The third assignment announced was that of Jack Somers, WA6VGS as Deputy Chief Area Coordinator for the United States. Jack reports to W0CY and will assist Jim in coordinating the activities of the U.S. corps of Area Coordinators. Jack has been instrumental in developing several of AMSAT's recent fund-raising "trinkets" including the call sign badges and most recently the sew-on patches. Jack lives in Los Angeles, California and recently received Mode J WAS #1.

Other new staff positions have been identified and will be filled in the future. Specifically, the position of Deputy Chief Area Coordinator for Canada is to be filled, as are several other regional slots. Tentative regional slots identified are Latin America, Europe, Asia, South Pacific and Africa.

Both W3IWI and K1HTV emphasized the importance of the appointments in further strengthening the Operations Directorate of AMSAT. "It is especially important that sound organizational structure be established and in place before the rapid growth expected to accompany Phase III," declared K1HTV. Rich is seeking to augment his staff in a number of important ways to insure user interfaces to both the satellite and to the organization are as fluid as possible.
—*AMSAT Satellite Report* □

AMSAT

Radio Amateur Satellite Corp.
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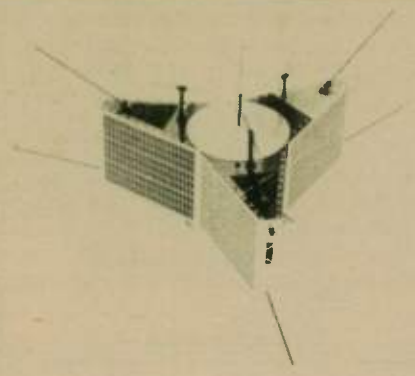

Dear Fellow Radio Amateur:

Do you know that the AMSAT Phase III Program is designed to bring you a new worldwide DX/local amateur band via communications satellite? This new band will be scarcely affected by the ionosphere, so that unlike the current hf bands or the three new bands we gained at WARC-79, propagation via this band will be 100 percent predictable. For the first time, the technology used to provide the reliability, predictability and ease of use of a two-meter repeater will be applied to provide worldwide coverage. The AMSAT Phase IIIB satellite will be capable of providing reliable communications among all stations within its range, be they local to you or DX up to half way around the world. There will be no skip zones in this new satellite communications band. At times, stations in New York, New Jersey, London, Paris, Tel Aviv, Moscow and Tokyo will be able to hold a round table QSO. The potential for multi-language bulletin transmissions, RTTY, computer, emergency, and public service communications is tremendous.

You owe it to yourself to be informed about this new band. The new band almost happened in May, 1980 but the launch vehicle malfunctioned and the Phase IIIA satellite did not achieve orbit. Our replacement Phase IIIB satellite is a million dollar undertaking. We are going full steam ahead secure in the knowledge that we can do our part to make the new band happen following the successful launch of Phase IIIB. Why don't you join the AMSAT Team and receive regular news as to the status of the Phase IIIB Program.

73,
The AMSAT Team

Yes, I want to be a member of the AMSAT Team and receive ORBIT Magazine. Enclosed are my dues of $16 ($20 overseas) for 1982 ($200 for Life Membership).

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Vern Hansen, AAA9W WB6UWQ

Secretary of the Air Force, Verne Orr, cuts the ribbon during dedication ceremonies at the Pentagon MARS Station. Lt. Col. Nelson Kerr, USAF — President of the Pentagon Amateur Radio Club (PARC/K4AF) looks on.

The following article entitled "Secretary Orr Dedicates AGA1DC" was submitted by MAJ B.J. Wilson, WA4EYA/AGA1DC, USAF, the Pentagon MARS Station Director.

Secretary of the Air Force, the Honorable Verne Orr, formally dedicated Air Force MARS Station AGA1DC during ribbon cutting ceremonies at the Pentagon on 26 January 1982. In remarks made to an assembly of MARS officials, amateurs and military communicators, Secretary Orr emphasized the importance of emergency preparedness and acknowledged the vital contributions made by Air Force MARS over the years.

The Secretary praised Amateur Radio operators and Air Force MARS personnel for a proud record of dependability, hard work and dedication. He noted that MARS had contributed positively to the quality of life in the Air Force by providing a priceless communications link for families separated during isolated duty tours.

Following dedication and opening of the station, Secretary Orr monitored traffic on TRANSCON and 1S1, praising both net controls for their professionalism and efficiency. The Secretary then moved to the colocated amateur station, K4AF, and answered a "CQ" from Robert Cullen, W8MAU on 20 meters. Secretary Orr then individually greeted many of the Pentagon Amateur Radio Club (PARC) members who operate and maintain the two stations.

AGA1DC is an Auxiliary Class MARS station operated as a morale-welfare-recreation activity by Headquarters USAF at the Pentagon. The station is located on the fifth floor of the Pentagon and uses an extensive antenna farm atop the building. K4AF and AGA1DC equipment is provided by member contributions and limited non-appropriated fund authorizations. Currently the main HF station consists of console-mounted Drake Twins with linear.

In final remarks at the station, Secretary Orr said:

"I am especially pleased to recognize the important contributions made by our MARS team — the AFCC headquarters staff, Base MARs personnel stateside and overseas, and affiliate operators — who have worked together to establish communications links during time of disaster while meeting the needs of our service men and women on a daily basis.

"Just this past Christmas, for instance, MARS volunteers spent thousands of hours of their own off-duty time to relay morale and welfare messages for our service families. And in times past — from the Guatemala earthquake to the Johnstown flood — Base MARS Teams, our affiliates and their fellow Amateur Radio operators have always answered the call willingly, rapidly and professionally. I wish I could personally thank each of those individuals for the priceless contribution they've made to our nation and our world. Communication is our lifeline, and we all owe a debt of gratitude to the amateur and professional communicators who keep that lifeline working." □

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Strange but true

Life is stranger than fiction. Two years ago, a Bellaire, Ohio amateur — Chuck Sempirek, K8WDC — had his 2-meter rig stolen from his car while at a bowling alley. Later, the Wheeling Police recovered the rig along with other items and kept it for evidence.

In the meantime, K8WDC migrated to Texas due to employment. Two years later, he was back in the area for the Christmas holidays. At that time, the Wheeling Police went through the evidence room and saw the 2-meter rig. Opening it up to see who it might belong to, they noted an amateur's call. Getting in touch with another amateur, they found out it belonged to K8WDC who was in the area from Texas. As a result, he got a belated present, courtesy the Wheeling Police Department.

MORAL: put your call letters, name and address inside that mobile rig.
— *Triple States RAC, OH* □

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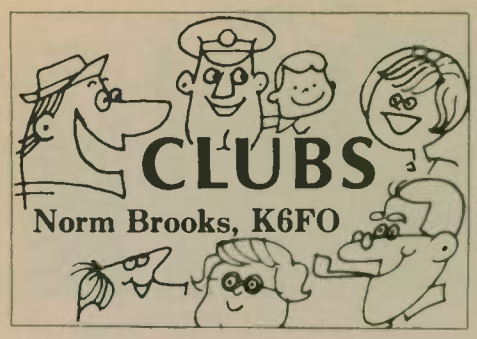

An exclusive club

How would you like to be a member of a very exclusive Amateur Radio club, sanctioned by the FCC? More accurately, I should say *created* by the FCC. Here's how it works.

For every 26 amateurs who upgrade to or hold the Extra Class license and who are willing to accept a 2 × 1 call sign, the FCC will assign a prefix all their own! (A 2 × 1 call sign has two letters, a numeral, and one final letter.) Just think of it. You and 25 other amateurs would have your own prefix for many, many years, until the Advanced and other class amateurs became numerous enough to be assigned your prefix.

Think of what you could do with such a "rare" prefix. You'd be the subject of pile-ups in the WPX contests. DX stations would call *you*, thinking *you* were rare DX! The possibilities go on and on.

Up to now I haven't heard much in favor of the FCC's plan for amateur prefixes. Instead, many articles have been written in protest of call sign changes. Typical of these articles is one written by Herb Lipson, W8FBH, printed in the Saint Paul Radio Club, Inc.'s *Ground Wave*, reprinted from *The DARA Bulletin*.

Didn't you used to be somebody?

"There was a time, many years ago, when we studied code and theory, over and over, until we had enough nerve to journey to the FCC office to take our exam for a license. After we were told we had passed, we went home anxiously to anticipate the arrival of our new license with our very own call. What would it be? A new one from the alphabetical list? A reissue from a Silent Key or a dropout? A good combination or an awkward one?

"Finally it arrived! We looked it over; was it easy to say or some oddball combination? Regardless, like the name our parents gave us, it was ours for life.

"At the club meeting we were introduced. Gang, meet our newest ham, W0XXX! On the air we soon learned to recognize the CW combination of our very own call. The QSLs came to our mailbox carrying our distinctive call. Eventually it became part of us, like a tattoo. We were W0XXX and nobody else was!

"Upgrading was no problem. If we started out with a WN call, as soon as we could copy 13 wpm and prove it, the N would be removed and we still had our original call. After that, upgrading did not change our identity. That call was us, and we were that call! We could keep our upgrading a secret or tell about it at our own discretion.

There was one little problem. Being a mobile society, we had to change jobs occasionally and cross into another call area. We could operate "portable" for a while, but eventually faced the sad fact that our call would be torn from us and we had to get used to another one with a strange number in the innards.

"Now look what happened! The FCC decided to tag each rung on the ladder with a different combination of letters. If you go the whole route from Novice to Extra, it is possible to have four different call signs.

"When we hear a new upgraded call on the air, we have to watch what we say. If you don't recognize the voice, you might put your foot in your mouth. As a minor invasion of privacy, the new calls also identify each step of the ladder one has achieved. If there is a problem with code, or for some other reason upgrading is a problem, you can almost hear whispers. "How come our friend is still a KA?"

"To further complicate the situation, the FCC gives you the privilege of *not* changing when you upgrade. Some of the gang have decided that they liked their General Class call, but have upgraded to Extra Class. Since it's now the vogue to flaunt your superior Extra Class status with a 2 × 1 call, how are people to know that you, too, have an Extra Class?

"Then there is the problem with call sign car license plates, those engraved lapel pins, the engraved sign for your shack door, QSL cards, jackets and everything else that carries your vacated call. These could be very expensive.

"I must admit that one of the advantages of the new system is the provision that allows us to keep our call when we move into another call area. My call might as well be tattooed on me. I intend to keep it the rest of my life, no matter where I may roam!"

I can agree with some of Herb's arguments, but not all. The situation he described is that of the 1 × 3 call which all of us old-timers got used to over the years. I see nothing wrong with an old-timer hanging on to his 1 × 3 call. But I can't understand a relative newcomer to Amateur Radio, who gets a 2 × 3 call as a Novice wanting to continue with that 2 × 3 call when a 1 × 3, 2 × 2 or 2 × 1 call would identify him with a higher class license. Call it an ego trip if you will, but what's wrong with telling the world you have the higher class license you worked so hard for?

The original incentive licensing program as envisioned by the FCC gave the upgraded amateur two benefits — privileged frequency bands in which to operate and distinctive call signs. When the word first got out, there was such a hue and cry about changing call signs that the FCC only went ahead with the privileged sub-bands.

I talked to John Johnston, W3BE, Chief of the Personal Radio Branch of the FCC when I saw him at SAROC on 2 April 1982 in Las Vegas, Nevada. He said the Commission was disappointed that the privileged frequencies by themselves did not motivate very many amateurs to upgrade. Amateur Radio growth stayed in the doldrums. More recently, however, the FCC has gone ahead with its distinctive call sign program, adding the provision that it is voluntary, to take care of those who originally objected. The results were amazing! Upgrading has taken off like a shot! It is now clear that a distinctive call sign is more motivating to the American Radio amateur than private slices of the frequency bands.

In the good old days, a prefix would be all used up before the FCC would announce the next prefix to be used. In its Docket 21135 issued 8 February 1978, the FCC announced all of the Amateur Radio prefixes through the next couple of decades. Generally, Novices get 2 × 3 calls, Technicians and Generals 1 × 3, Advanceds 2 × 2 and Extras 2 × 1. Thus, KA3AAA to KA3ZZZ represents 26 × 26 × 26 or 17,576 Novice amateurs, but KV3A to KV3Z is but 26 Extras. When will the Novices get to KV3? Not until there are 21 × 17,576 of them, and that's going to take a long time!

For a while, the Extra Class amateur could pick his own call sign. This peaked out when the 1 × 2 "N" calls were issued. To save administrative costs, the Commission now issues calls only in alphabetical order from the computer, which leads to a form of lottery played by the upgrading amateur. The gamble is "what call will I get?" To help with this lottery, the FCC publishes lists of new call signs each month. (See page 11.) By averaging the numbers of calls issued each month for a particular class and call area, the applicant can come up with a fair estimate of what his new call sign might be.

Fred Maia, W5YI, editor of the well-known *W5YI Report*, has reduced this call sign prediction to a science. On page 3 of his 15 March 1982 issue he tells how to predict *very accurately* the call sign that will be received. His "secret" is based on average licenses issued and the turn-around time at the FCC. It covers two pages in his report, and I won't try to say more here. For more information, write him at P.O. Box 10101, Dallas, TX 75201.

When I told John Johnston I was going to write on this subject, he was somewhat surprised that I called it an "exclusive club sponsored by the FCC." He admitted it was true, though, and even went so far as to remind the would-be Extra Class amateurs in the 4th and 6th call areas that they had better hurry up as the "exclusive" prefixes are just about used up in 4 and 6.

To give you an idea of the fun the 2 × 1 and 1 × 2 Extra Class call signs are providing, consider the Geratol Net. There was a time only the old-timers held "two letter" (1 × 1) call signs. They met in the Extra Class portion of the 75-meter phone band. You don't need much imagination to figure where the name "geratol" came from. In recent years many younger amateurs have earned Extra Class licenses and have joined them, but the "geratol" name still stands. The net meets on 3787 kHz and is dedicated to providing contacts for working all states in the Extra Class portion of the band.

Also, with the newer 2 × 1 calls, the net has come up with some ingenious endorsements to their *Unbelievable Operating Achievement Award*. If this sounds interesting, listen on 3787 kHz on Friday and Saturday evenings and/or send a business-size SASE for information to Harold Thornhill, K5BG, Box 4001, West Biloxi, MS 39531. □

Surprise party for club member

Roy Moses, KS5Q

At its February 1982 meeting, the North Texas High Frequency Association (NTHFA) of Denton, Texas held a surprise belated birthday celebration for one of its staunchest members — Clarence Phillips, W5BVB, who was 71 on 13 February. Not only did he receive a cake with one symbolic candle and the best wishes of 36 members and guests, but a special treat, he said, was the birthday buss from Cathy Opaskey, XYL of Fred WB5TSB.

Cathy, sometimes known as the Blonde Bomber, is the unofficial "den mother" of the NTHFA. Clarence, a licensed amateur operator since 1933, retired from his commercial radio business a couple of years ago and has become a sort of "group Elmer" to the NTHFA since that time, giving freely of advice and assistance. In a show of appreciation to Clarence, members of the NTHFA recently voted him Honorary President and Lifetime Member, the only amateur to receive this honor in the four-year history of the club.

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World Radio History

The '77' Club

Sparky Barr, W9KJU/Jan Sager, WB9RKJ

The "77" Club (or the Amateur Radio Friendship Club [ARFC]) welcomes amateurs to join its ranks. To qualify for membership, amateurs must contact five "new friends" via Amateur Radio, using any band and any mode, at any time. There are no dues, no constitution and no bylaws.

To become a life member of ARFC, simply keep a log of the five friends you have contacted, tell them about AFRC, and ask that they contact five *new* friends. This will produce a chain reaction which will build the "friendship chain" until it spans the world.

If a Certificate of Life Membership to ARFC is desired, send your log of the five friends you've contacted to Sparky Barr, W9KJU, Rte. 3, 3215 West Drive, Lake Geneva, WI 53147. Include $1 U.S. money *or* the equivalent IRCs to cover mailing and printing expenses. All money that exceeds actual expense for the certificates will be used to establish a scholarship fund (or other suitable award) for the most outstanding promotion of friendship via Amateur Radio.

ARFC has an international arrangement which has requirements for membership. Four DX stations must be worked (more than once). Each DX station must be asked to help forge the "friendship chain" by talking to *their* friends about ARFC and ARIFC. Tell them how to secure a certificate, if they're interested.

It is hoped that before long, interest in the club will grow enough to warrant establishing ARFC and ARIFC nets on each band. □

Contact Worldradio for hamfest prizes.

YOUR LOCAL RADIO CLUB

For information on how to get your club listed in this column, plus receive many other benefits, write to Dave Tykol, WA6RVZ, Club Liaison, Worldradio, 2120-28th Street, Sacramento, CA 95818.

ALASKA

EIELSON/NORTH POLE ARC
Eielson AFB, Alaska 99702
North Pole Jr./Sr. High School
3rd Friday/monthly — 7:00 p.m.

ARIZONA

Metropolitan Amateur Radio Club
J.C. Penny Restaurant, El Con
Tucson, AZ 85726
Call in on 34/94 K7CC/R
Every Saturday morning — 8:00 a.m.

Tucson Repeater Association
P.O. Box 40371, Tucson, AZ 85719
2nd Sat/monthly — 7:30 p.m., Pima Co. Bldg.
Net Thurs 7:30 p.m. 146.22/82 (146.28/88 & 147.69/09)
(602) 747-8903 or 899-4776

CALIFORNIA

ARALB (Assoc. Radio Amateurs of Long Beach)
1708 E Hill St. Signal Hill, CA 90806
Meets: Signal Hill Comm. Center
1st Friday/monthly

East Bay Amateur Radio Club
P.O. Box 6017, Albany CA 94706
Salvation Army Bldg., 36th & Rheem,
Richmond (415) 525-6200
2nd Friday/monthly — 7:30 p.m.

Fresno Amateur Radio Club, Inc.
P.O. Box 783, Fresno, CA 93712
Meets: 2nd Friday/monthly — 8:00 p.m.
Wawoha Middle School; 4524 N.
Thorne; Fresno. W6TO/R 146.34/94

Mt. Diablo Amateur Radio Club (MDARC)
Grace Presbyterian Church
2100 Tice Valley Road
Walnut Creek, CA 94598
3rd Friday/monthly - 8:00 p.m.

North Hills Radio Club
P.O. Box 41635, Sacramento, CA 95841
Meets: Gethsemane Lutheran Church
4706 Arden Way, Carmichael, CA 95608
3rd Tuesday/monthly

San Gabriel Valley ARC
Bowling Green Clubhouse
405 S. Santa Anita Avenue
Arcadia, CA 91006
1st Tuesday/monthly - 7:30 p.m.

Santa Cruz County ARC
PO Box 238, Santa Cruz, CA 95061
Last Friday/monthly — 8:00 p.m.
San Fran. Fed. Savings, 1995 41st Ave., Capitola
K6BJ repeater 146.19/146.79

Satellite ARC, Inc.
Bldg. 21160
Vandenberg AFB, CA 93437
1st Thursday/monthly — 8:00 p.m.

Silverado Amateur Radio Society - (SARS)
Silverado Jr. High School
1133 Coombsville Rd., Napa, CA 94558
Bill Williams — N6EIH
1st Tuesday/monthly

Sonoma County Radio Amateurs, Inc.
Box 116, Santa Rosa, CA 95402
Hank Davis, W6DTV (707) 823-7885
County Office of Emergency Service
1st Wednesday/monthly — 8 p.m. rpter 146.13/73

Stockton Amateur Radio Club
U. of Pacific, Rm. 122
Kensington & Mendocino Sts.
2nd Wednesday / monthly — 7:30 p.m.
Rptr. roll call: Wed. 8 p.m. — 147.165/765

Tri-County Amateur Radio Association
Pomona First Federal Savings and Loan
399 N. Garey Ave., Pomona
Talk-in 146.625/025 For info. call (714) 985-8184
2nd Monday/monthly — 7:30 p.m.

CONNECTICUT

Tri-City ARC, Inc.
P.O. Box 686, Groton, CT 06340
Meets: Groton Public Library
Rt. 117, Groton, CT
2nd Tuesday/monthly — 7:30 p.m.

FLORIDA

Greater Titusville Amateur Radio Club
c/o W.F. Young, N4DQT, 3845 Catalina St.
Titusville, FL 32780 • Repeater 146.31/91
3rd Monday/monthly - 7:30 p.m.
Chamber of Commerce Bldg.

Indian River Amateur Radio Club
P.O. Box Five, Cocoa, FL 32922
1st National Bank, Merritt Island
Cor. SR 3 and SR 520, Merritt Island
4th Tuesday/monthly — 7:30 p.m.

Sarasota Amateur Radio Assoc., Inc.
Sarasota Junior High School Rm. A-9
Shade Avenue & Hatton Street
President: "O.W." Lander N4FCF
3rd Tuesday/monthly - 8:00 p.m.

GEORGIA

Gwinnett Amateur Radio Society
Red Cross Center
Hi Hope Road, Lawrenceville, GA
147.87/27 for Talkin/Info.
3rd Thursday/monthly — 7:30 p.m.

ILLINOIS

Fox River Radio League
McCullough Park Dist. Bldg. Rm. 101
Rt. 31 & Illinois Ave., Aurora, IL
(312) 898-2779 for more information
2nd Tuesday/monthly — 7:30 p.m.

Radio Amateur Megacycle Society
Irvingwood Acacia Church
3900 N. Plainfield, Chicago, IL 60634
(312) 625-2879
3rd Friday/monthly — 8:00 p.m.

Wheaton Community Radio Amateurs (WCRA)
College of DuPage, Room 2061
Glen Ellyn, IL 60137
1st Friday/monthly — 7:30 p.m.

INDIANA

Allen Co. Amateur Radio Tech'l Society, Inc.
P.O. Box 10342, Ft. Wayne, IN 46851
Allen-Wells Chapter House • Amer. Red Cross
1212 E. California Rd., Ft. Wayne, IN 46825
3rd Tuesday/monthly — 7:30 p.m.

Fort Wayne Radio Club
Ron Koczor, K9TUS
2512 Glenwood Ave., Fort Wayne, IN 46805
The Salem Church
3rd Friday/monthly — 7:30 p.m.

IOWA

Muscatine Amateur Radio Club
Info: Bruce Dagel, WB0GAG (319) 264-3320
Meets: Basement Meet. Rm., Public Safety Bldg
Muscatine, IA
1st Monday/monthly — 7:30 p.m.

MARYLAND

Frederick Amateur Radio Club
Frederick Electronics
Vernon Simmons, KA3CVD
(301) 371-5735 after 1800 except Thur.
2nd Tuesday/monthly — 2000

MASSACHUSETTS

Billerica Amateur Radio Society (BARS)
Honeywell Systems Division
300 Concord Road
Billerica, MA 01821
1st Wednesday / monthly — 7:30 p.m.

Q.R.A. (Quannapowitt Radio Assoc.)
Masonic Hall — Salem Street
Wakefield, MA 01880
2nd Friday/monthly — 8:00 p.m.

MICHIGAN

The Eastern Mich. ARC (EMARC)
St. Clair County Comm. College
Student Center Building (Cafeteria)
Port Huron, MI (313) 364-9640
1st Tuesday/monthly — 7:30 p.m.

MISSOURI

Heart of America Radio Club
3521 Broadway
Kansas City, MO
3rd Tuesday/monthly

NEW JERSEY

Glouster County ARC, W2MMD
PO Box 370, Pitman, NJ 08071
American Legion Post
Delsea Dr., Rt. 47, Clayton, NJ
1st Wednesday/monthly — 8:00 p.m.

Old Bridge Radio Assoc. (OBRA)
Cheesequake Firehouse — Route 34
Old Bridge Township, NJ
Daily 8 p.m. Net on 147.72/.12 MHz
3rd Thursday/alternate (odd) months 8 p.m.

NEW YORK

Amateur Radio Assoc. of the Tonawandas
City Hall, Community Room
200 Niagara Street
City of Tonawanda, NY 14150
3rd Tuesday/monthly — 8:00 p.m.

Genesee Radio Amateurs, Inc. (GRAM)
PO Box 572, Batavia, NY 14020
State Civil Defense Center, Batavia
(behind NYS School for the Blind)
3rd Friday/monthly — 7:30 p.m.

Long Island Mobile Amateur Radio Club (LIMARC)
146.25/85, 147.975/375, 223.22/.224/.82, 444.125/449.125
Membership: Jerry Kamen, K2QXH, 44 Robin Lane, Levittown, 11756 Net every Mon. 8:30 p.m. 146.25/85
Meets 1st Tues / 8 p.m., H.B. Thompson, JHS, Syosset

Staten Is. Amateur Radio Comm. (SIARC)
Northfield Savings Bank (side entrance)
Richmond and Castleman Avenues
Call KA2CUS (698-2006) or WA2KQN (981-0372)
3rd Thursday/monthly — 8:00 p.m.

OHIO

Ashtabula County ARC
Ken Stenback, A18S (964-7316)
County Justice Center
Jefferson, OH
3rd Tuesday/monthly — 7:30 p.m.

C.A.R.S. (The Clyde Amateur Radio Society)
Ervin Remaley, KA8CAS, Secretary
2nd Tuesday/monthly - 7:30 p.m.
Community Rm., City Building. Clyde, OH
Repeater 144.75/145.35

Champaign-Logan A.R.C., W8EBG/R
Joe Palmer, KS8M, President
2 Meter Net, 147.60-100, Tuesdays, 8:30 p.m.
Dinner Meeting, 1st Thursday / monthly
Dajolees Restaurant, West Liberty, OH, 7 p.m.

Findlay Radio Club
1333 W. Sandusky St./Box 587
Findlay, OH 45840
Repeater 147.75/15
1st and 3rd Thursdays/monthly — 7:30 p.m.

NOARS (Northern Ohio ARS, Inc.)
P.O. Box 354, Lorain, OH 44052
K8US (216) 988-2345/near OH T.P. Exit 8
3rd Monday/monthly — 7:30 p.m.
K8KRG/R 146.10/70 |-144.55/145.15-449.8/444.8

OREGON

Clatskanie Amateur Radio Club
Route 2, Box 553
ClatsKanie, OR 97016
ClatsKanie Grade School Library
2nd Tuesday/monthly — 7:00 p.m.

Oregon Tualatin Valley ARC
Portland General Electric Auditorium
14655 S.W. Old Scholls Ferry Road
Beaverton, OR 97005
3rd Wednesday/monthly — 7:00 p.m.

SOUTH CAROLINA

Keowee-Toxaway A.R.C. (Seneca/Walhalla)
147.87/147.27 WA4JRJ/R
Seneca Police Dept. Bldg.
Call Hum Walker, S/T, KD4WL (803/882-0471)
3rd. Tuesday/monthly — 7:30 p.m.

TENNESSEE

Lakeway Amateur Radio Club
Roy A. Zeigler, Activities Mgr.
Rt. 11 Box 61, Morristown, TN 37814
State Area Vocational School
Last Thursday/monthly — 7:30 p.m.

Radio Amateur Club of Knoxville (RACK)
PO Box 124, Knoxville, 37901
Fire Training Center
Prosser Road, Talk in 147.90/30
3rd Thursday/monthly — 7:30 p.m.

TEXAS

Garland Amateur Radio Club (GARC)
146.775/146.175 K5QHD/R (Info Net Mon. 7:30 p.m.)
Garland Women's Activity Building
713 Austin Street, Garland
4th Monday/monthly — 7:30 p.m.

Houston Amateur Radio Club, W5DPA
7011 Lozier Street
Houston, TX 77021
(713) 747-5073
Fridays/weekly — 7:30 p.m.

UTAH

Utah Amateur Radio Club (UARC)
Room 161, Murray High Sch., 5300 S. State
Gordon R. Smith, K7HFV
582-2438/talk-in 16/76
1st Thursday/monthly - 7:30 p.m.

WEST VIRGINIA

Jackson County Amateur Radio Club, Inc.
First National Bank of Ripley, WV
1st Thursday/monthly — 7:30 p.m.

WISCONSIN

Racine Meyacycle Club
Red Cross Building
4521 Taylor Avenue
Racine, WI 53405
2nd Monday/monthly — 7:30 p.m.

World Radio History

Nets and antennas

This month we look at the two most important aspects of Amateur Radio afloat — a good antenna and a group of organized operators that may handle your call for assistance. Let's first begin with your antenna system.

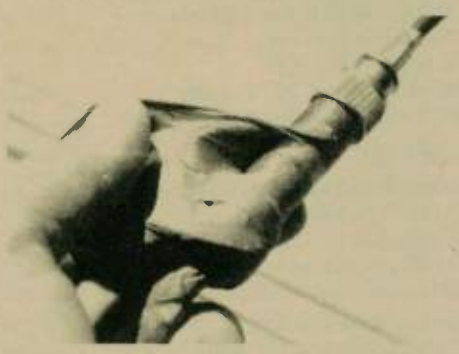
When you think of a marine antenna, always remember — there are two parts. Half of the antenna you see as the radiator. The other half is your vessel ground system. We talked about this last month. You can have the best antenna in the world, but a poor ground will yield signals that are barely heard. A poor ground system will also create "hot" instruments that jump to life when you start transmitting. If your anemometer reads 40 knots when you modulate, chances are your ground system is inadequate. Once again, remember — the ground connection to your transceiver and antenna tuner must be made with copper foil, not round battery cables or other types of round ground wires. Also, if you are not picking up your keel as a ground, you are losing out on a real signal kicker.

Mobile whips work fair.

A backstay is your best antenna.

Nothing will beat a backstay antenna using a quality antenna tuner. In a recent meeting of maritime mobile net control operators, everyone agreed — backstay signals are heard around the world. Mobile whip antennas off the stern are nothing but a compromise. That's right, the small mobile whip just does not have the surface area to launch your signal effectively. There is no way you are going to get more signal out of a smaller antenna — especially a loaded antenna that only gives you about a foot or two of actual radiating whip area. Your backstay antenna will be the best.

An interesting backstay antenna has been one developed by Rudy Severns from the vessel *Springtime*. He has developed a half-sloper using the backstay as the radiating element. The 52-foot mast is grounded, and coax feeds this whole affair. The braid of the coax is grounded to the mast, and the center conductor goes to the backstay. The backstay was cut to 43 feet.



Coax sealant is necessary aboard boats.

Another wire running near the backstay to the mast is cut to 36½ feet long and fans out from the top. It is pruned to obtain the best SWR on all bands. On 80 meters, the backstay — together with the tuning wire — approximates a quarter-wavelength antenna. On 40 meters, the wire supplies the quarter-wavelength. On 20 meters, the backstay by itself is close to three-quarter wavelength. On 15 meters, the tuning wire is close to three-quarters of a wavelength. On all bands, most of the current loops are at the top of the mast and in the clear for maximum radiation. "We have noted that the antenna is somewhat directional, but signals in the direction of the radiator have a marked gain over a random long wire."

Good work, Rudy N6LF. An interesting antenna, and it sounds like it works well.

ICOM 720 with Swan ST-3 tuner

Maritime nets

Marine nets are one of the best things going for maritime mobile stations. They are there for emergencies. They can handle phone patch traffic. Some nets keep track of you, and may call the Coast Guard if you don't appear up on the net for X number of days. Maritime mobile nets will help you establish a rendezvous with other boats that are outside of normal groundwave range. Some nets are operational 24 hours a day, and you know that in an emergency someone is bound to hear your call for help and know how to quickly call the Coast Guard.

Nets are so popular that many are badly abused. Who would abuse the net? I'll tell you — non-licensed operators or amateurs without the proper grade of license.

Let's face it, maritime mobile stations unfortunately have the notorious reputation for being big abusers of Amateur Radio privileges. Just because you're beyond the 20-mile limit does not mean that "anything goes" on the ham band. The FCC has made it quite clear in recent interpretations of their rules that all American flag vessels must use U.S. Amateur Radio call signs.

The old trick of going down to Panama and buying one of those foreign call signs won't work any more. The old trick of using a friend's call sign is also old hat. Using the call sign of a Silent Key shows no imagination, and dreaming up foreign call signs with your initials as the last three letters shows no class, nor ingenuity. The maritime net control operators are well aware of these tricks used by non-amateurs for free phone patch traffic. Marine net control operators are going full astern to stop this abuse.

A relatively new organization called CLAMMARO is helping Amateur Radio maritime net control operators identify stations using improper call signs. Participating net control operators will turn over their net rosters to CLAMMARO members who will doublecheck validity of the license, and privileges that a particular licensee has. Cooperating FCC field offices maintain microfiche files that are far more accurate and up to date than just perusing through a Callbook.

Participating net control operators are then informed of call signs that require additional checking. Possibly the operator did not send his call sign phonetically, and the call sign does not agree with the handle of the operator. Possibly the operator upgraded, and for some reason the information did not get into the latest FCC microfiche.

Or maybe the operator indeed has a call sign, but not of sufficient grade to operate in the General or Advanced Class portion of the band. I am unhappy to say that this is often the case. There are also some operators who are using made-up foreign call signs, call signs of friends, and even call signs of Silent Keys.

It's now up to the net control operators to take whatever action they feel is necessary to self-police our ham band from maritime freeloaders. That's just what they are — people wanting other amateurs to make phone calls for them when they didn't earn their license.

"It's not surprising to find 15 stations out of 100 checked with questionable call signs," comments a CLAMMARO member. "We try and reduce any errors by contacting FCC field offices where this licensee may have recently upgraded within the last month. We have an excellent rapport with the San Diego, California FCC field office, and they assist us in every way to self-police our maritime nets by checking out recent upgrades from other FCC field offices."

No net control operator likes being told that they may be running a net that has some illegal stations on it. That is not anything you would want to read in a letter from CLAMMARO. However, several new net control operators are joining CLAMMARO with the enthusiasm to keep their own net as clean and polished as possible.

Next month we'll have more details on the activities of CLAMMARO, and how net control operators approach maritime mobile stations that are using bogus call signs. Remember, unless we can self-police ourselves when it comes to handling third-party traffic and phone patches, we could very easily lose these privileges. It takes the cooperation of every amateur to encourage mariners contemplating using Amateur Radio equipment without a license to get a license before they sail off into the wild blue yonder. □

Cruising with Radio

Dick Barrett, W6CFK

Following on the success of last year's Amateur Radio cruise aboard the Love Boat, *Island Princess* in the Caribbean, another one — this time aboard the P&O liner *Oriana* — will put to sea from Sydney, Australia on 16 October for 13 days. Plans are to have both HF and VHF stations aboard, according to Nancy Smallhouse of Los Altos Travel who arranged the first cruise.

Dr. Gene Clark, W6DQH and his wife, Dr. Jeanne Clark, WA6GUA — who were participants in the Love Boat adventure — will be leaders of the South Pacific cruise. The *Oriana*'s first stop will be Auckland, New Zealand, after which it will visit ports in Fiji, the New Hebrides and New Caledonia before returning to Sydney.

On last year's cruise, seven operators made some 1,500 contacts.

Information about the cruise can be had from Nancy, wife of Chuck Smallhouse, WA6MGZ, of Los Altos; 800-423-5355 nationwide, or 800-382-3356 in California. □

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Galatians 6:10

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Mid-West	Sat	8:30 am	3.907
Rocky Mtn.	Sat	8:00 am	3.907
South-East	Sat	7:30 am	3.907
South-West	Tues.	10:00 am	7.227
Transcon	M-Sat	1600 Z ST	14.307
		1500 Z DT	14.307

Every amateur welcome to check in.

For additional information write:
K7AQ, Charlie Cox
325 Hillview Drive
Grants Pass, OR 97526

World Radio History

Fred Bonavita, W5QJM

(EDITOR'S NOTE: This is the second in a two-part series on QRP or low-power Amateur Radio communications.)

One early bird amateur operator emerged from a Texas swapfest one morning, clutching a mint-condition Heath HW-7 under his arm football fashion and dashing for his car.

He had just paid $15 for that "golden oldie" CW transceiver, and before he could get it to the safety of his trunk, he turned down an offer of $25 cash for it and refused to talk a swap for another piece of equipment.

Such is the enthusiasm with which QRPers haunt swapfests, hamfests, conventions and the like with an eye toward snatching up bargains in low-power equipment. Although $15 for an HW-7 is a rare event, bargains in QRP gear are fairly common and represent an almost painless way of testing the waters without getting soaked.

Shopping swapfests and classified advertisements in amateur publications can turn up good buys in used equipment. It might not have all the features of state-of-the-art transceivers now on the market, but it is a way to get "into" QRP gently.

The popular Heath HW-8, for instance, can be found for $100 or less (usually with power supply). It is not uncommon to find TEN-TEC Power Mites (the PM series forerunner of the Argonaut) for as little as $40. All you add are a key, an antenna and a 12-volt power source (batteries do nicely), and you are on the air with about 2 watts output.

In addition to their relatively low cost, QRP transceivers are much sought after by backpackers, campers, travelers and others who like having a compact rig along on a trip — something other than the dull 2-meter FM transceiver.

Unlike bulkier, heavier and more costly high-power rigs, QRP gear is light and compact enough to be taken almost anywhere — even on business trips (some models tuck nicely into a briefcase).

The hand of Dan Lewis, N6HY all but dwarfs a self-contained QRP 40-meter transceiver he uses on backpacking outings. With an output of almost 1 watt, Dan has worked many states on low power while hiking the mountains of California.

After years of backpacking with QRP gear, Dan Lewis, N6HY of Paso Robles, California has refined things to the point he includes his Argonaut and associated equipment with his food, shelter and clothing when he takes off for the summit of some mountain, where he tosses a long-wire in a tree and hits the air. He also has built a 40-meter transceiver that fits in the palm of his hand.

If there is a group along, says Dan, he will pack his Argonaut but will distribute the batteries, tuner, antenna and other items among the others' packs.

"Plan your excursions to allow plenty of extra time for walking speeds and ample operating time," he advises.

QRP mobile also is not unknown. One Tennessee-based truckdriver, who asked not to be named, regularly operates his HW-8 from the cab of his 18-wheeler on long hauls. ("It sure beats CB," he said.)

And Ralph Burch, W8LCU of Portland, Michigan — president of the Michigan QRP Club — can be found operating his HW-8 from a bench in his company's service van while parked during lunch breaks.

"There is only one problem with this arrangement," Ralph said. "You end up with a sandwich in one hand and a telegraph key in the other and a contact at the other end who is telling you that you cannot be operating QRP with an HW-8 and a mobile antenna because the signal is too strong. And with the last words of the QSO and the excitement, the coffee gets spilled over some test gear, and then you spend the rest of the afternoon trying to dry out and clean up a $40,000 (piece of equipment)."

The backpack in the background was sufficiently large to accommodate food, clothing and shelter for Dan Lewis, N6HY on a hike through the California mountains plus a couple of lantern batteries, a random-wire antenna tuner, a microphone and his QRP Ten-Tec Argonaut transceiver.

This is not to say QRP is universally accepted or loved. There are those — me among them — who have encountered intense, negative feelings about low-power operating. I was on the receiving end of an on-the-air chewing-out from another amateur who, once he learned some 10 minutes into a contact that I was running only 2 watts on 75-meter sideband, became upset at the idea of someone running QRP and calling him for a signal report. He bragged he was running 1,500 watts PEP at the time and said he had no use for low power.

Allen Fortenberry, W5EOR — who mixes high- and low-power operating from his Austin, Texas home — still smolders at the treatment given two QRPers one afternoon on an otherwise uncrowded portion of 10 meters. Their ragchewing was interrupted by a pair of SSTV stations that moved on top of them and began testing and adjusting equipment. When one QRPer told the interlopers the frequency was in use and asked them to move, one SSTVer refused.

"Besides," snapped the other SSTV operator, "if you guys can't afford anything better than QRP, you ought to stay off the air."

Luckily, that attitude is not widespread either.

One of the stumbling blocks for the would-be low-power operator is overcoming the idea Bob expressed: That "those little QRP rigs don't get out good." It is a particularly worrisome notion to those who chase DX actively. Without getting into a recitation of the comparison of signal strengths of a 100-watt transmitter's output and that of a 1-watt transmitter over the same path and under the same conditions, let me point you to the successes of Bill Dickerson, WA2JOC, who began as a Novice QRPer.

Bill was the first amateur to land back-to-back DXCC awards for CW and sideband running QRP. He also bagged a WAC certificate QRP in only 11 minutes (getting the cards took a little longer), and he has earned many other awards, attesting to the ability of low-power signals to do the job.

What are his secrets for hunting and working DX QRP?

"The first and most important thing is to believe it can be done," Bill says. "I know more than one amateur who won't enter a pileup without a linear amplifier because he honestly believes he does not stand a chance of snagging a DX station without it."

Doing away with amplifiers will force operators to hone their skills and thus become better, he says.

"If you have a high-powered rig, sell," Bill continues. "Better yet — give it away!" Its absence will do more to help you work DX than anything else. And be patient, patient, patient."

He also urges operators to go after the weak signals, not just the loud ones; to become part of a DX-alert network but shun "lists," since they traditionally are run by an intermediary high-power station, which essentially makes the contact for you; and to identify yourself tactfully as a QRP station, since DX stations often make way for low-power signals.

And finally — but somewhat tongue-in-cheek — Bill advises, "Live within a quarter-mile of the ocean or a large lake. Water does wonders for your QRP signal." □

WARM Award rules

On page 36 of the May issue of **World-radio**, a description was given of the WARM Award — Worked Albany Radio Members. We have received word from William Lowenberg Jr., W2OOJ that the award is not just another "work our city" award, as the May information implied. Rather, the point of the award is to work *any* amateur station in *any* of the many "Albanys" of the world; in other words, any city, town, village, county or other community *anywhere in the world* with "Albany" in its name. (Examples: New Albany, Nova Scotia, CANADA; Albany's Point, BERMUDA; Albany, California; Albany Creek, Queensland, AUSTRALIA).

The award is available to licensed amateurs, and there are no date limitations. Do not send QSL cards; send full log details of contacts. No fee; enclose name, call, mailing address and return postage (two first class stamps for USA; 2 IRCs for all others). Address for applications is: Harry Hovey, KB2FC, 15 Sylvan Lane, Troy, NY 12180 USA. Club roster and list of most "Albanys" are available; send 2 IRCs.

(NOTE: A point consists of one two-way contact on any amateur band, any mode, with any Amateur Radio station located in an "Albany" or with any member of the AARA, wherever located. No repeater contacts. Satellite contacts accepted. Endorsement available.)

Scoring

For AARA members and/or amateurs whose location is in Albany, Rensselaer or Schenectady Counties, 15 points — of which at least 5 must be AARA members. For stations whose location is New York state (except the three counties just mentioned), 10 points, of which at least one must be an AARA member. For stations whose location is in the "lower 48" states (except New York), 7 points, of which at least one must be an AARA member. For stations in all other locations, 5 points, of which at least one must be an AARA member. □

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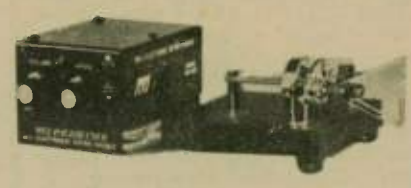

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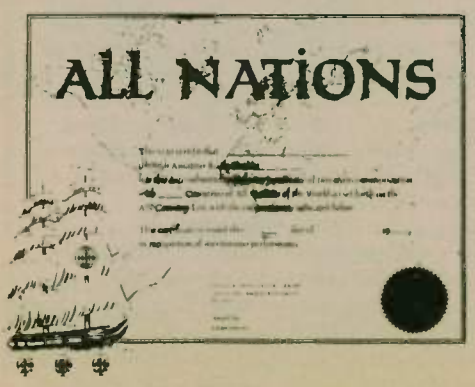
World Radio History

AWARDS

Scott R. Douglas Jr., KB7SB
P.O. Box 9990
Glendale, CA 91206-0990

This month we will review the new awards series of the International Amateur Radio Society. The following rules apply to all of the IARS awards presented.

1) Awards available to both licensed amateurs and SWLs. 2) To apply, submit a log extract (GCR) listing all contacts in alphabetical order of prefix. 3) Where level endorsements are applicable, there is no fee when requested at the time of your application. Level endorsements requested after your original application are $1. 4) Only contacts made after 15 November 1945 are valid. 5) Include $4 for each award applied for. 6) To: International Amateur Radio Society, P.O. Box IARS, Glendale, CA 91206.



All Nations (AN)

This is the society's version of DXCC and uses the ARRL country list plus the following HL, H5, S8, S4, T4 and IT as creditable contacts for this award. The award is issued for confirmed contact with at least 100 countries as per the AN country list. Endorsement stickers are issued for each additional 25 countries contacted through 300 and in increments of 10 through 350. You may apply for this award All SSB, CW, RTTY, SSTV or Mixed Mode. Power and band endorsements are also available. This is a fine award measuring 11 by 14 inches, printed in multi-colors on a parchtone bond.

Islands of the World (IOW)

This is like a DXCC for islands and follows the same basic plan as All Nations. The award is issued for confirmed contact with at least 100 island countries as set forth in the IOW country list (available from HQ address above). Endorsement stickers are available for each additional 25 islands contacted in increments of 25 through 300 and in increments of 10 to 350. You may apply for this award All SSB, CW, RTTY, SSTV or Mixed Modes. Power and band endorsements are also available. This is a fine award measuring 11 by 14 inches printed in multi-colors, on a parchtone bond.

United Nations (UN)

This award is issued for confirmed contact with at least 100 different member nations of the UN. Contacts with countries that are no longer members are acceptable providing contact was made during the time of their association with the organization. Endorsement stickers for levels above the basic requirement are available and all band and mode endorsements are applicable. The award measures 9 by 12 inches, and is printed in two colors on a fine parchtone bond.

The Mediterranean (TM)

Issued for confirmed contact with at least 20 countries as set forth on the TM country list (available from HQ address).

Endorsement for band and mode available upon request with original application.

The Indian Ocean (TIO)

Issued for confirmed contact with at least 25 countries as set forth on the TIO country list (available from HQ address).

Endorsement for band and mode available upon request with original application.

The Caribbean (TC)

Issued for confirmed contact with at least 40 countries as set forth on the TC country list (available from HQ address). Endorsements for band and mode available upon request with original application.

The Pacific (TP)

Issued for confirmed contact with at least 60 countries as set forth on the TP country list (available from HQ address). Endorsements for band and mode available upon request with original application.

TM, TIO, TC and TP measure 9 by 12 inches and are printed in multi-colors on a fine parchtone bond.

IARS Directory of Certificates and Awards

In my opinion, this is the finest award information volume available. Cost $12.95 + $3 shipping to IARS HQ. Till next month — 73s, Scott □

National Capital Award

Sponsored by the Ottawa Amateur Radio Club, the National Capital Award is issued upon proof of contact with stations located in the National Capital Region of Canada. The award is issued to SWLs on a "heard" basis. The National Capital Region consists of the cities of Ottawa (Ontario), Hull (Quebec) and the surrounding areas.

Stations located in Canada and the lower 48 United States require 20 contacts, while all others require 10 contacts.

The attractive certificate will be endorsed for band or mode upon request. Fee for the award is $2 for stations in Canada and the United States, and $3 (or 8 IRCs) overseas. Do not send QSL cards. Send list of contacts giving call sign and QTH of station worked, date, band and mode to: Award Manager, Ottawa Amateur Radio Club, P.O. Box 8873, Ottawa, Ontario K1G 3J2, CANADA. □

Suggestion wins KA0JHL a bonus

Submitted by Dave Schneider, WD0ENR

Dan Harland, KA0JHL of Mt. Pleasant, Iowa has been awarded a cash bonus of $1,362 by the Mt. Pleasant Motorola manufacturing facility as part of the company's suggestion program. This amount represents the highest total ever paid to an employee at the Mt. Pleasant plant.

Dan's suggestion was to eliminate a tantalum capacitor in the Maxar FM two-way radio made in Mt. Pleasant. It was determined that the elimination of the part would represent a substantial savings to Motorola, and the suggestion program committee rewarded Dan with a percentage of the savings.

Motorola has been making two-way radios at Mt. Pleasant, Iowa for nine years. The plant employs about 200. Besides KA0JHL, other amateurs working at the facility are Rick Shell, WB9QZI; Don Campbell, W0SWY; and Dave Schneider, WD0ENR. □

Homebrew for bike

Rev. Jere Felten, W7UU of Keyport, Washington travels about 15,000 miles a year on a 10-speed bicycle, spreading his ministry on the airwaves across the world via his Amateur Radio set. The homebrew set built to fit his bicycle, cost under $4 to assemble.

— Info from article by Liz Peeples Enbysk of Kitsap County Herald, Poulsbo, WA □

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15 minutes to install; scan restarts when carrier drops off; busy switch controls automatic scan on-off; includes module and instructions.

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COMMENTS ON THE BS-1:
"I was just about to give my FT-207R away, when I decided to give it one last chance, and I ordered the BS-1 battery saver kit. Well, it made all the difference in the world. I can't believe it is the same rig. I used to carry around an extra battery pack all day, but now my batteries last about twice as long. I no longer have to worry about dead batteries. I used to worry about turning the memory off to conserve power, but with the BS-1 it doesn't matter any more. The audio has improved, and I really like my rig again."

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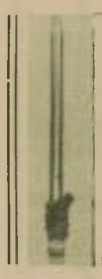

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World Radio History

WITH THE HANDI-HAMS

Bruce L. Humphrys, KØHR

The great blind hobby

Now just about everyone knows there are blind radio amateurs. Check into the ACB net on 14.305 some noontime to catch a moment of some good operators who happen to be blind. But did you ever consider that our great pastime is, *itself*, blind?

Take a look at the picture of Dr. Tom Linde "nosing" out some code on his keyboard. Who would ever expect that the crisp, fast, accurate CW on the low end of 20, signing "KCØL" would be coming from a nose! What's more important — who cares? You see, it doesn't make a whit of difference what you look like, or what you've got (or haven't got) to operate with. What does count is *how* you use what you've got. And in the HANDI-HAM System, we've got some pretty innovative people.

Dr. Tom Linde, KCØL "noses" out some code on his keyboard, as Courage Center staff member Laurie Skiba looks on.

Like, for example, Joe B. from Alabama. Joe is non-verbal — can't talk. Let me share a bit of recent letter from Joe with you:

"Yes, I'm very active on the CW nets here in Alabama, as well as a few out-of-state nets. I am even active on a couple of SSB nets! I don't let not being able to talk stop me, I just check in on CW! I took over as net manager on the Novice net, I'm NCS on AEND, and representative to RN5. I'm also in Army MARS, so you can see what Ham Radio means to me."

Now, that's what I call determination! There's a fellow who really enjoys this great avocation, and is providing a valuable service to his community to boot. And I'll just bet that most of the people he runs across on these nets don't know the nature and/or extent of his handicap. You see — it doesn't matter!

Everyone's going to war with everyone else . . . or so it seems these days. In this crazy political morass of international intrigue, we often forget that peopling these nations which are angry at each other are — *PEOPLE!* Diplomacy works when two people can sit down, privately, together, and talk out their differences. Diplomacy works because of *communications.*

Face it — we're in the communications business. Whether it's handling a piece of traffic for someone overseas or just chewing the rag with another amateur, we all have a message to convey. That message could be as important as a health and welfare notice to a family of an earthquake victim. Or it could be as (seemingly) mundane as a description of your shack, or what you did this morning, or that your kid has the flu. The message *you* send over the air about yourself is as important as any you'll ever handle.

System member Al Hamilton of Waltham, Massachusetts instructs Maureen Pranghofer in the use of the braille terminal with the GTE IBM 3033 computer.

One of the truly great things about Amateur Radio is that you are able to project your personal message about yourself without the bias of a face-to-face encounter. That means, the message which tells the real story of you comes through without having to fight through a whole bunch of preconceived notions, prejudices or biases. For many of our HANDI-HAM members, getting on the air is the first time in their lives that they are able to become involved with another person without having the barrier of being identified as a handicapped person come in the way. What a neat thing!

Perhaps when we can all be recognized for what we do, what we contribute, and what we are — without being scrutinized for what we look like — well, things just gotta be better!

By the way, did you know that hardly ever . . . No, let me say it like this — In this job as Director of the Courage HANDI-HAM System, I'm answering the phone a hundred times a day, writing reams of letters and speaking to scores of groups. Did you know that *hardly ever* has anyone asked — over the phone, in a letter, or on the air — if *I'm handicapped?* By golly, here in Amateur Radio, it just doesn't matter, does it?!

GTE gives computer time

System member Al Hamilton, AG1F, Waltham, Massachusetts, has responded to our request for a computer with a wonderful gift from GTE Laboratories in Waltham, Massachusetts. GTE has given HANDI-HAM headquarters free computer time on their IBM 3033 via the Telenet computer link.

Mr. Hamilton came to HANDI-HAM System headquarters in mid-February to instruct staff on the computer's use and to get a better idea of our requirements so that sub-routines can be implanted into software for ease of use.

We determined through actual use that the computer supports the Triformation Systems LED-120 braille computer terminal donated to the System last year by General Mills. We are presently putting material into the computer for printing in braille. Let us know if you have a specific request.

Another very generous gift from System member Dick Steele, Newport Beach, California will be used to purchase word and data processing equipment and support for System operations. Such a capability, coupled with the computer time donated by GTE, will greatly increase our ability to serve our membership. □

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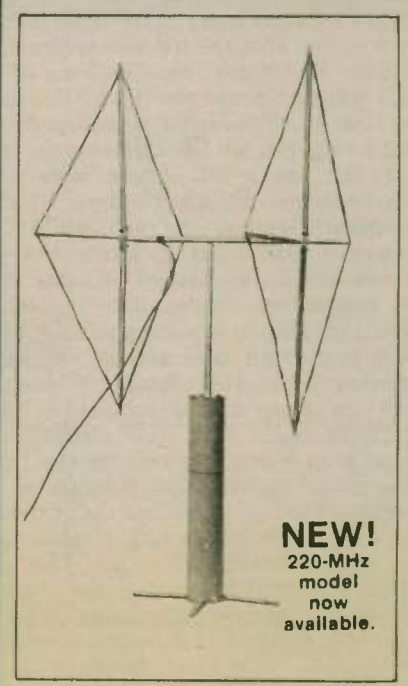

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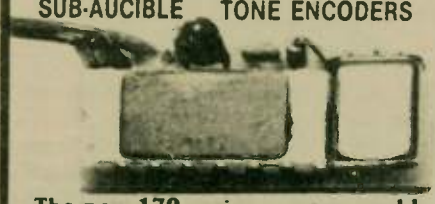

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What do you expect of a DF unit?

For well over six years now, we have attempted to cover the various aspects of RDF (radio direction-finding) in the VHF and UHF bands. During those years we have tried many ways to share the findings of those active in DF, both in the amateur and the Search and Rescue (SAR) communities. Our 1982 articles have been even more direct in our attempts to share facts and observations with all interested parties.

Our April 1982 column, entitled "Which type DF is best?," produced one of our most favorable responses for a long time. In essence, we tried to point out that there is really no single DF unit or method that is "best" under *all* circumstances. We tried to point out instances where gain is essential and cases where excessive RF levels (and multipath) made a field strength meter more valuable than an 11-element beam.

We have discussed the merits and shortcomings of the two-element, switched antenna DF units such as the L-Tronics-Elper, Micro Electronics - VH 12, EBC DF 88, Glatzer DF 22, Dorne-Mongolian, etc. Whenever we discuss brand names, it becomes very difficult to properly state facts and observations without causing undesirable reactions from the companies or extreme devotees of particular brands or systems.

When we became involved in DF, (a seemingly remote application for ham pilots and flyers), it was because of the apparent need for improvement in the location of jammers in Amateur Radio, and in the location of downed aircraft (by DFing the 80 milliwatt Emergency Locator Transmitter). The time required to locate either was excessive when compared with the times of amateur operators who were active in "T" (transmitter) hunts at hamfests and other radio club functions.

We found that there were individuals scattered around the country who were locating jammers and downed aircraft in very reasonable times. However, we found this to be the exception rather than the rule. The majority of DF finds in SAR were so bad that the balance (average) of overall "find times" the first year of the ELT was 42.5 hours per "find." Considering that an 80 milliwatt signal cannot be heard very far, we felt this average time was far too great. Lives were very definitely lost during the days after an emergency landing or crash, while SAR personnel attempted to locate the survivors. We made enemies of some when we complained loudly that something should be done to bring capabilities up to what is possible (and actual practice at hundreds of Amateur Radio "T" hunts).

In traveling throughout the United States, Canada and New Zealand, we found a number of reasons for this "find time" problem. I feel that the number one problem was that three-fourths of the DF installs we checked in SAR airplanes did not work properly (or at all). This is a totally unacceptable percentage. At first we thought that some brands of DFs were inferior in design and therefore the results we found on some planes were all that the unit could produce. This was dispelled when we encountered our first non-working VH 12. This was the brand purchased by the State of California and distributed to CAP and Sheriffs Air Squadrons. I had been issued one of them and found that it worked on 2 meters and the aircraft frequencies with equal ability and accuracy. I had been able to locate and pinpoint jammers, homes of fellow amateurs, and even moving cars with intermittent transmissions.

Since we knew the capabilities of that brand from first-hand experience, we knew that the real problem for this plane had something to do with either the unit itself or the installation in the plane. Once we realized that most of the units were so similar in design concept that most of them should do a reasonable job for the owner if it worked in their plane, we had our work cut out for us to find out why so many of them did not work properly. Sadly, there has not been a quick, single answer to the installation problems. They run the gambit from interface, DC line noise, shortened antennas, etc. to never connecting them to a receiver!

A lot of these installations could have been discovered, and should have been discovered at installation. The problem appears to stem from association to other electronic installs in airplanes. When a new radio or other avionic is taken from a factory box and installed, only minimal tests are made (usually on the ground). Consider a newly installed DF at an airport with an ATIS (a recorded information message continually transmitted for pilots).

The installer knows where the ATIS transmitter antenna is on the field. He turns on the DF tuned to the ATIS and finds that the needle points to the incorrect side of the plane. Since it is possible to put the antennas on the wrong side, he switches them (either physically or via a switch located on a number of units). Now the DF points to the expected side. The technician and the plane owner are happy. The installation is completed and little more thought is given to how well it might work. This type of testing on a low frequency ADF in the airplane is normal and satisfactory, but not on VHF!

However, due to the characteristics of VHF RF propagation and its tendency to reflect and bounce off of anything it can, what was seen in this type of test is actually almost worthless. Depending on the type of DF installed, what you see on the meter could be the average of all paths arriving at the DF antennas — or just one of the paths. In either case, both are probably incorrect — and rightly so. As we have stated many times, if more than one RF path exists and the DF uses the pointer on a meter (or a single digital readout) to give you information, the answer must logically have to give you some type of a compromise answer, depending on its design.

Here we come upon a basic fact that seems ignored by all too many. No matter how good the design of a given DF unit or method, nothing can change the actual VHF radio frequency energy paths that are created within a given set of unchangeable circumstances. What is happening, is happening!

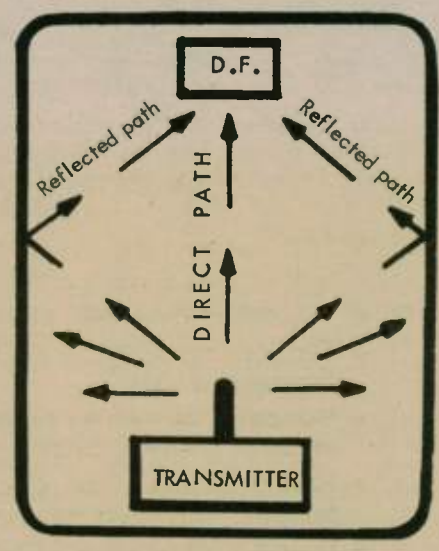

Figure 1 — A direct path and two reflected RF paths. (see text)

For example, look at *Figure 1.* A transmitter radiates in every direction, simultaneously. We have shown only three of the possible paths. The one in the center represents the most obvious path — the direct one. You can use your imagination as to what object is simulated at the "bounce" point shown at each edge of the illustration. If you are in SAR, you can imagine hills or hangars. If you are an amateur looking for a jammer in a city, you can imagine those points as the sides of high buildings. In either case, anyone familiar with VHF and UHF propagation will acknowledge that one can expect VHF RF to bounce whenever it can. If this drawing were done by an artist, other reflective objects could have been added. This would have resulted in the possibility of even more reflected RF paths to the DF point.

At this time, however, let us just think of these three paths. Let's agree they do exist, even though they are invisible to the naked eye. They are not invisible to a receiver as long as they are strong enough to be detected. Rudimentary DF is a matter of controlling the RF input to a receiver in some fashion that results in deduced indication of the direction of the arriving information. At low frequencies this is much easier, since usually only one signal arrives at a given place. When more than one does arrive, the problems begin. If three paths actually exist, the answer given must be some compromise. This will depend on the device or method in use.

Normally, if you are using any method that utilizes signal strength (beam, quad, loop, field strength meter, body shield, etc.), the answer will be an average of all information present in the direction under consideration. In areas with extremely strong multipath conditions, this can often become an excellent method — sometimes even the best method. If you are using an electronically switching antenna as part of your system, the results you achieve will depend on the design of the system in use.

The most common switched antenna DFs in use today can be broken down into at least three groups. The simplest is the two-element, quarter-wave spaced, with no delay line. This will produce an oval-shaped pattern, alternating equally on both sides of the center axis. I call this the "voltage averaging type." In the illustration, if we assume equal strengths on all three paths, the average value would cause the DF to indicate straight ahead. Coincidentally, this would be correct.

The second group is the two-element, quarter-wave spaced, with a 90 degree delay line. This will produce a cardioid pattern that will alternately switch sides with an overlap that causes a deep null at the center axis. Although this antenna can be used in a voltage averaging system, most utilizing it derive their answers by a "phase measuring" method. Due to the narrow aperture at the center axis of the switched cardioid pattern, many of these systems can ignore all RF information outside of its aperture. In the example shown in *Figure 1,* it is possible for the DF to indicate any of the three, depending on which way you point the antenna. This is of great advantage when you are a distance from the target and wish to separate reflected path information from the correct path you seek. By the same token, it is a great disadvantage to an operator who does not understand the realities of VHF radio frequency propagation, when they are in an area of extreme multipath. For instance, we do not recommend this type DF for use by an untrained SAF DFer for airport location of a false ELT signal.

The third group is the multi-element, electronically rotated antenna systems. These can include from three elements and up (I have schematics on many of them). Using modern digital techniques, different antennas in the system are turned "off" and "on". (It must be pointed out that turning "off" an antenna does not necessarily remove its influence from the resultant pattern.) Most of these types presently marketed can give you either a digital readout, a compass rose LED, a line from the center of a CRT, or a combination of the foregoing. If the antenna system is stationary (as opposed to mobile), and since only a single answer is possible at a given time, the answer displayed in the situation depicted in *Figure 1* would have to be some compromise answer. Some systems might display the average of all paths present at the strobe time, while another might choose one of them — depending on the circumstances at the time of strobe.

I separated fixed from mobile because the multi-element DF units respond differently when used mobile for homing. As you progress through changing RF paths,

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the unit must continually update the displayed information. Most of them recommend that you follow the answer that is present most of the time.

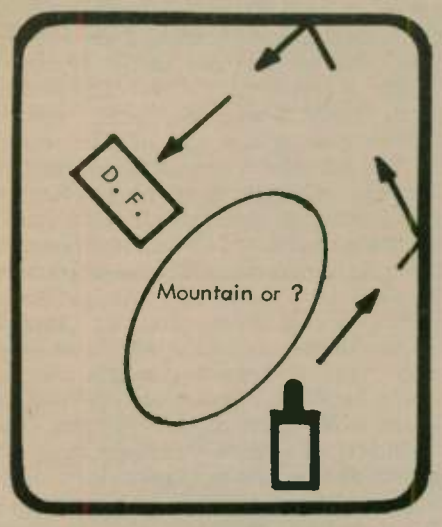

Figure 2 — No direct path available to the DFer. (see text)

Now let us consider the illustration in *Figure 2*. We have simulated a condition where no direct path exists at all. This often happens. You can see that it will be more difficult with any system. A signal strength method or a voltage averaging method will most likely head you toward the reflective point. To make things even more confusing, as you approach the reflective point, the signal strength will appear to increase — just as if you were approaching the actual target. The multi element units would probably indicate considerable variation in answers as you progressed, with some compromise answer if you remained stationary. Since the phase type is the most accurate of all types we have tested, it would most likely reveal that the information arriving is very erratic. An experienced phase DFer would probably deduce that the direct path is not present and attempt to move to a better location. Note that none of the systems can change what RF conditions exist, nor do any of them point to the actual transmitter.

We may want the DF to tell us what we wish to know (the location of the actual transmitter), but it can only tell us *what it sees,* and that within the design limitations of the device!

SAR DF help is needed!

How often can I say, DF help is needed to save lives! This year I have received reports of a number of five-day searches for ELT crashes. Rick Goodman, W5ALR's group was brought all the way from Albuquerque to the Phoenix area on the third day of one of the searches. Many of the searchers at the site had never even heard the distinctive sound of an ELT. Sadly, they were supposed to have been trained on ELT DF within the previous month. Rick found that they were using an "Elper" DF held like a "water witch rod." (It should be used vertical, not horizontal.)

I have offered my help for years now in the DF field. I even wrote to former President Carter offering to help correct some of the problems of the SAR DF community. Lives could and should be saved, if the ELT were used properly. It is one of the best methods ever devised to locate a survivable crash. Chances are good that when people survive, the ELT may also survive and thereby help us to rapidly locate them. Sadly, not enough input is able to reach the proper channels. For instace, any DF capable amateur would question the wisdom of using a downswept tone on the ELT. Why? Because AM signal strength is affected by modulation. As the tone changes, so does the RF strength the DFer is working with. A solid tone — even intermittent — would be much easier to DF and still retain the distinctiveness of an emergency the downswept tone was intended to produce. It would also simplify emergency call-up of SAR personnel by very inexpensive 567 tone decoding (less than $10 at today's parts prices).

By the time this is printed, I expect to be almost fully recovered from my successful operation and available for full-time work. If any readers have friends or contacts in government, or in the Search and Rescue community, perhaps you can talk to them about these needs. Perhaps someone could help us find an opening where a model DF program can be set up for a state or the nation. I intend to personally contact those I think might be interested. I met with the head of California Wing, Civil Air Patrol last month and we are working on programs to help them in California. I would like to help train, repair and set up programs to help DF everywhere. It's not that hard once you have working equipment and the knowledge to use it.

If I am unsuccessful in locating a job in SAR, I will be seeking a job in the private sector that can use my zeal and talents. I prefer to work helping others, but the return of my health ends my pension. Since I tend to be a workaholic, I am anxious to move on to the next step in my life. Any help will be appreciated.

Your help is also needed in your local area. Communications and DF are both areas that should be naturals for amateurs. Seek out your local SAR group and see if you can help. Members are needed desperately in most areas. Volunteer help is getting harder to find. Remember, almost all SAR in the United States is

(*please turn to page 45*)

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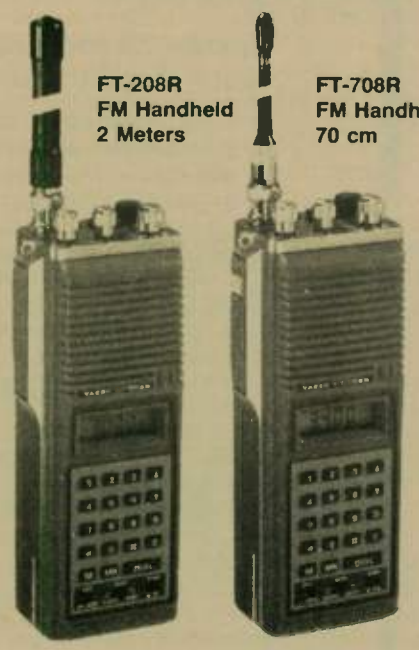

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World Radio History

"So long for now — CUL!"

On account of the press of some business matters and a strong urge to have a little more time to spend on the bands, I must now forego the pleasure of writing a column. There are still many items left within my "source hopper," that we can discuss later on in short articles. I thank the readers of the columns I have been privileged to write during the past five-plus years, for the encouragement your letters and radiograms have brought me. I hope we can continue to keep in touch, but for the time being, I bid you a fond farewell!

Taking time out for a chuckle now and then

Having lived at Long Beach, in a rather large old house with a big beam up from the peak roof, on the way to the *Queen Mary*, visitors interested in radio were quite common and a few unusual ones among them. One early morning a visiting amateur from Australia inquired, "Do you still have those 813s?" Then he quickly informed me that we had not been in QSO, but some time prior to visiting the United States he had heard me tell a U.S. amateur that I had some spare 813s. He had noted the call, looked up the address, and upon visiting Long Beach, there he was, seeking some tubes I was not then using. He made a joke out of his thrift and we enjoyed a good visit.

A number of visitors were not amateurs, but were from foreign countries and sought a chance to "talk back home." When they set up their own time and wrote back (usually at an impossible hour, coupled with language problems), I had my hands full trying to make explanations, especially when the country was not on the U.S. third-party list!

The most interesting visitor was a young man who had been studying radio at the downtown main library. He had read every publication the library had on Amateur Radio, including **Worldradio**. Upon bicycling by the house, he observed me working in the yard and pointing at the beam, asked me what bands I worked; then to my surprise, he called me by name. He explained that an old Callbook gave the address and he regularly read **Worldradio** at the library each month. He had acquired an old communication receiver and copied W1AW and would be sending in for a 15 or 20 wpm proficiency certificate. He also copied their bulletins, "almost solid. Such bulletins are sent at about 18 wpm. He said sometimes he tried 25 wpm and he thought it might be possible, except he liked to listen to ham QSOs, and at the times it was confusing and "slowed down his speed."

It was his idea that he would not get a Novice license, but wait until he had read enough to be sure of getting a General. When I told him it might be helpful to acquire a Novice license, he said with all the listening he did, he was determined not to add to the QRM on Novice bands. I've wondered about such young man; did he ever go on the air? Or is he another "Dinty Moore?"

With me and perhaps several other radio officers who worked on ships that made Port Angeles in the Puget Sound, that name might bring a chuckle or *more* (excuse the pun). If they ever went to Moore's barbershop, I'm sure the ritual was the same. He would inquire if you happened to be the ship's radio officer, then he would set the hour when you would visit "his station." His "station" consisted of a good communication receiver, a typewriter and two pairs of "cans."

Having made inquiry whether you held an amateur license and being answered in the affirmative, Moore lamented the fact that he doubted his ability, or he would "get a license if you thought he was qualified?" All of such nonsense took place where there was a considerable number of high-powered stations all sending press, at various speeds, close to 30 wpm and faster. Having set the hour, he knew the schedules of such stations; and after seating himself at the typewriter, he invited his visitor to also don a pair of "cans." Then, with no apparent strain, he proceeded to bat out a full page of press before he pulled it out of the "mill" for you to check. Of course it was perfect and copied at least around 30 wpm or faster, and naturally you had to tell "the rascal" you thought he would be a terrific addition to the amateur fraternity. But upon inquiry of those who also had become acquainted with that smiling Irishman, he had never sought an amateur license. It must have broken his heart when such press stations went off the air! By the stacks of press station copy, doubtful that he acquired any news otherwise. If anyone can fill me in, I am listening.

National International Net joins ARTS!

By invitation, NIN will be NIN/ARTS, but use only ARTS for calling. Also, the summer frequency will be 7125 kHz; the time between 0200Z and 0300Z, unless by notice in the Traffic column by Chuck Clark, K4ZN, or close by such column. Please check!

It is a pleasure to announce that some of the "old pros" from ARTS morning session will be joining hands to help bring new blood from the Novice ranks into traffic handling. It is suggested that while on 7125, net operation be kept at 12 wpm or slower — if need be — to bring in all possible recruits. No speed restrictions on frequencies otherwise, but while on Novice bands, remember there are many that cannot copy without writing down what they copy, so maintain a reasonable speed, never faster than what those accepting traffic can copy accurately!

I am pleased to turn over the balance of this column to Bill Bonnell, W5II of 3820 Hamilton Dr., Ft. Worth, TX 76107. Read it carefully, listen to the operations on ARTS, then drop Bill a card. Volunteer to be aboard and take traffic for your area — he will be glad to hear from you.

A net called ARTS

A traffic net called ARTS (meaning Amateur Radio Telegraph Society) has been operating on 7060 kHz for the past eight years, where traffic for anywhere in the world can be handled. This is accomplished by working with other nets to exchange traffic. This net is a new concept in traffic handling as it requires no net control station, and therefore does not consume time in waiting for permission to pass traffic. Anyone can check into ARTS. Your traffic will be taken immediately, and you can leave or stay to help the net — whatever you choose.

This is probably the only net operating with no NCS, and there are several reasons for this type of operation. The net covers too much territory for one NCS to handle and it soon became apparent that a net control was not really necessary. Traffic totals went up over 200 percent when the NCS was dropped! If you are still wondering how this all works, read on. The net calling frequency is 7060 kHz. The net operates daily from 1400Z to 1530Z during Standard Time dates 1 November until 1 May. It then moves up one hour during daylight time to 1500Z to 1630Z.

To check-in, listen first on 7060. If nothing heard, call "CQ ARTS de (your call)," QRU if no traffic, or QTC and list traffic by states, then listen. You will be called, moved off frequency, and your traffic taken. If no one answers your call, wait a minute and try again. It could be that all stations are busy off frequency, but they will soon be back. No need for fast sending. Send at your own speed and don't worry.

ARTS is a friendly net, as you will soon see. No strict format to learn. One rule only: do not handle traffic on net calling fre-

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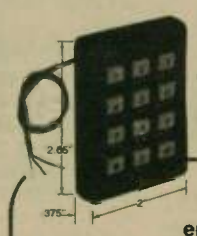
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World Radio History

quency unless QRM makes it impossible to find a clear spot. There are no dues; nothing to fill out. Just be there with or without traffic and join in on the fun. You will find a lot of good CW ops here ranging from 18 to 85 in age. All the regular net operators are dedicated traffic men who give their time and efforts to keep the net going. If you need a quick check on weather conditions, you will hear many stations give a quick weather report as they check in. Ask for a weather report any time and you will get all you need. Recently a net bulletin was started by the net manager, Bob Kuehn, W0HKF.

The bulletin is published every two months. Contributions will be printed so that your ideas and suggestions will be seen by all. Editorials are welcome, as well as any tips you may want to pass along.

ARTS runs two daily skeds with the "Hit and Bounce Net" to give instant access to the entire East Coast, from Nova Scotia to Florida, including outlets to South America. ARTS also puts traffic into the western United States and Hawaii and Alaska via skeds with NTS nets. The door is wide open for whatever you need. What more can you ask? Give ARTS a try. □

Armond Brattland, K6EA/0 writes his "farewell column."

Here's a little about Armond K6EA's background. He's had a busy life, and radio has played a major role in it.

He was licensed as 9EA in the winter of 1915-16, and served as radio operator on ships of the Redwood Coast a few years later (63 years ago).

Fifty-seven years ago he finished law school; he acquired an LLB and JD. He served as Special Assistant Attorney General for the Department of Conservation and had a hand in Minnesota being the first state to use radio instead of field telephones for the Forestry Service.

Armond was in the Signal Corps in WWI; in WWII and following wars, he served on troop ships around the world. Until a few years ago, he also served on passenger vessels, tankers and freighters. Summers were sometimes filled in with jobs at broadcast stations.

He holds First Class Radio Telegraph and First Class Radio Telephone licenses. The amateur calls he's held since first operating as ADB in 1910 are: 9EA, W9DGL, W9FUZ, W9ITJ, W6CKO and W0EA. He's also a trustee for W6CHN, Maritime Radio Club of Wilmington, California, and is an active member of ARRL, HANDI-HAMS, OOTC, Zone Club, QCWA (60-year Certificate), and SOWP/SGP. Favorite radio subjects? Emergency preparation and traffic.

Other interests of K6EA's include the outdoors — canoeing, fishing and hunting. ("I canoed the Canadian-Minnesota wilderness area since before WWI," writes Armond. "M' gosh, pinch me!")

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Old advertisement still does the trick

Barry Martz, KI8W

One night in early January, Don Peterson, WD8DVB and wife Dixie sat quietly at home reading a few magazines, when Dixie called an advertisement to Don's attention in **Woman's Circle** magazine. It was from a lady asking for some study material to assist her in getting her amateur license. She was looking for books and cassettes on theory.

Don wrote down the address and went directly downstairs and fired up his rig on 10 meters. The woman's address was in Salem, Oregon, so Don decided to give a couple of calls for Salem. After tuning up and finding a clear frequency he began calling for Salem. No answer. Don tried a second time, and listened.

"WD8DVB, here is KA7CKC in Salem, Oregon, how copy?" Don was surprised as he answered the Salem amateur.

It seems Ernie Kreft, KA7CKC just happened to have his rig on, on that particular frequency, as he was working on something else in his shack.

Ernie is a member of a local club in Salem, and Don gave him all the information from the ad, and here's what happened: Ernie tried calling the lady, but found her number was not listed, so he went to the address. He found she had put the ad in **Woman's Circle** two years earlier, and it had just gotten printed.

In the meantime, she'd taken a code class, had gotten her Novice license, and now wanted to upgrade to General. Ernie's club is assisting her toward her goal.
— Mid-Michigan ARC, Farwell, MI □

Amateur Radio week

New Jersey is expected to again celebrate Amateur Radio Week, 20-26 June, preceding the ARRL's annual Field Day. Word from Trenton is awaited by the amateur community. □

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World Radio History

TRAFFIC

Chuck Clark, K4ZN
Assistant Director
Roanoke Division, ARRL

Missionary nets

Amateur Radio provides the link with the folks back home for many whose work takes them to all parts of the world — military personnel, seamen, explorers, business travelers. Missionaries, too, have found it helpful to keep in touch as they strive to spread the gospel in distant lands. And in all these cases, Amateur Radio has often been more than a mere morale builder; it has repeatedly provided the only means of communication in life-and-death situations, such as ships in distress, medical emergencies and aircraft lost in the jungle. Most of the activity is concentrated in the 20-meter phone band.

Typical of these nets is the International Mission Radio Association's (IMRA) net that meets daily at 1800Z (1900Z when Standard Time is in effect) on 14,280 kHz. It began about 20 years ago as a meeting place for Roman Catholic priests who had amateur licenses, but soon became involved in that church's missionary activity.

There are still several priests who regularly check in, but they are now only a minority. And missionaries of any denomination are welcome and regularly check in, as well as Peace Corps volunteers, mission auxiliaries, and anyone else who needs to communicate, wants to communicate, wants to be available if needed, or would just like to check in. Catholics are still in the majority, however, and probably always will be; this is because theirs is the largest denomination in the United States and worldwide includes nearly two-thirds of all who belong to a Christian denomination, and also because several other nets have been organized by or on behalf of other missionary groups. Like IMRA, most of these others also welcome anyone who wishes to help, regardless of religious affiliation. It's people helping people, and heaven knows help is needed.

These nets generally follow the 20-meter phone net procedure rather than that used by National Traffic System nets, and rarely if ever make use of formal radiograms. They are a good place to look for phone patches, and are usually less congested than the nets that meet on 14,313 kHz.

Here is a list of missionary nets as gathered from ARRL's current net directory:

Adventist Amateur Radio Network — 14,305 kHz 1500Z Sunday, 0030Z Wednesdays, 1900 Thursdays, and 21,405 kHz 1700Z Sundays.

Amateur Radio Missionary Service (ARMS) — 14,307 kHz 1500Z (1600Z during Standard Time) except Sundays.

International Mission Radio Association — (IMRA) — 14,280 kHz, 1900Z (1800Z during Standard Time) except Sundays.

Also often used by missionaries is the Medical Amateur Radio Council (MARCO) net on 7236 kHz at 0100Z (0200Z during Standard Time) daily, on 14,277 kHz Tuesdays and Thursdays at 0200Z (0300Z); at 14,308 kHz at 1415Z (1515Z) on Sundays; and on 14,280 kHz at 1900Z (2000Z) also on Sundays.

Ten years ago, IMRA had stations keep a listening watch on 14,280, to be available in case of an emergency. But no one used the service, so it was discontinued. The tried and tested way to get help during emergencies seems to be to tune around until you find someone you can work and give a call. There seems to be someone on the air at any time of day or night.

In addition to these open nets, many missionaries also have private schedules with individual stations where there is a large amount of traffic going to a few destinations. Such are the regular schedules kept by the motherhouse of the Episcopalian Order of the Holy Cross in West Park, New York with the Order's missionaries in Liberia, and the communications of the Jungle Aviation and Radio Service (JAARS), headquartered in Waxhaw, North Carolina, which provides logistic support for the Wycliffe Bible Society's teams of philologists working on translations of the Bible into the languages of primitive peoples; in many cases, this means having to invent a written language for the purpose, and these days also making extensive use of computers to expedite the work.

Missionary traffic

There is one risk involved in using Amateur Radio for missionary support. It is easy to violate the International Radio Regulations by handling forbidden traffic. Unless there is a third-party agreement between the countries involved, all traffic must be between the two operators exclusively. Even — strictly speaking — to tell the other operator, "Wish your wife a happy birthday for me," is illegal.

Even where there is a third-party agreement, or where the International Regulations do not apply — as for example, between the U.S. mainland and American Samoa or Guam — such agreements and also the FCC regulations 97.114 prohibit business communications. The temptation can be strong to use Amateur Radio to carry on the ordinary business of the missionary work, such as requisitioning supplies, making reports, assigning personnel — especially when mail is slow and unreliable and commercial communication circuits are expensive. Except in emergencies, however, the rule is: Don't use Amateur Radio.

For other than official communication, one could use as a guide the practice of MARS nets in handling traffic for military personnel. MARS rules are much the same as amateur rules, so they can safely be followed. A message to missionaries directing them to return home would be business traffic, for example, but it would be permissible for a missionary to send a message to tell the family of the time of arrival.

Even though business traffic is ordinarily prohibited, it is allowed in emergencies; amateurs are allowed to handle *any* traffic relating immediately to the safety of life or the protection of property. The FCC takes this in a rather liberal sense and has specifically said it is permissible to use one's 2-meter rig to summon help in case of auto trouble on the highway. Hence, it could be said that it would be legal to use Amateur Radio to obtain boat or airplane parts needed to restore a craft to service, for in the missions, having a serviceable plane or boat can often be a matter of life and death. But ordering hymnals or Bibles or incense would hardly qualify as emergency communication.

What action should an amateur take who hears any forbidden traffic being passed? Tell the FCC? It is permitted, but generally not advised. Unless rules are being flagrantly violated, causing harmful interference generally, or compromising the security of the country, the FCC would just as soon not intervene.

Currently the FCC has fewer employees than it had 30 or 40 years ago, and a hundred times as many stations to control. It has to use its personnel where they are most needed and prefers that people settle their problems themselves, if possible. Of course, if it were the case of someone using Amateur Radio to coordinate preparations for invading a Caribbean nation to overthrow the government, that would be different. But just because we hear someone handling traffic that we don't think should be handled on the amateur bands, we shouldn't run to the FCC to complain. There is always the danger that the FCC might decide that it can't control it, and so the only thing to do is to issue a blanket prohibition that hurts a lot of people who are giving no trouble to anybody. It has happened before, in fact it happened in this very matter of third-party traffic about 10 years ago.

The thing to do is to take the matter up with the station involved. If you are an

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World Radio History

ARRL Official Observer, you might send a card. If you aren't you could either contact the station on the air or perhaps better — write a letter. Maybe you should think of becoming an Official Observer (OO) yourself if you can qualify. Contact your Section Communications Manager (address on page 8 in any issue of QST). More OOs are needed, but only those who have the necessary tact and technical skill will be accepted; ARRL membership plus four years experience as a licensed amateur are required.

One thing not to do is harrass the stations by catcalls, tuning up and testing on frequency, and the like. The two stations *may* be violating the law by handling the traffic, but you are certainly doing so by causing malicious interference. If the FCC takes action against them, it will probably take the form of, "Don't let it happen again."

You would lose your license, for the FCC says deliberate interference is always serious; a single instance is enough to justify suspending or revoking the license of the one responsible. This is particularly true in the case of emergency traffic, and it is possible that the FCC might in such a case turn the matter over to the Department of Justice to institute criminal prosecution.

International traffic

This column has several times mentioned that there are countries in Europe that do not consider amateur-to-amateur-to-amateur relays to be third-party traffic, so in those countries a system of traffic nets has developed, patterned after the National Traffic System of the United States and Canada. They have repeatedly asked us to join them, but they seem to have aroused little interest on this side of the Atlantic. They have asked the ARRL Board of Directors and they have asked U.S. amateurs to do whatever is necessary, but the Board took no action on the request — didn't even refer it to a committee to study. One petition was filed with the FCC to amend the rules to permit U.S. amateur participation, but as it drew no support, it was dismissed. The Eastern Area staff of the National Traffic System did take the matter up at a recent meeting, but has not thus far taken any action.

The problem is that the FCC rules, if interpreted literally, prohibit such traffic between the United States and any country that does not have a third-party agreement with the United States. The same must be said of Canada. The U.S. rules define third-party traffic as communication with another Amateur Radio station "on behalf of anyone other than the control operator." Interpreted literally, however, this would also outlaw much other international communication now taking place. It would be unlawful to tell a DX station that someone is calling, to take lists, even to act as QSL manager for a DX station unless the whole thing is handled by mail.

Jerry Swank, W8HXR had some experience with the FCC that may indicate we are taking the rule too literally, however. For three years he acted as a relay between an amateur stationed in Greece and the latter's mother — Carolyn Smith, WB6UVU — making tape recordings of one's transmissions and playing them back for the other to hear. That, too, would seem to be prohibited by the letter of the rules, but he inquired of the FCC legal department by telephone and was told it was permissible because all three were amateurs. While this is not an official interpretation, anyone could use it as a guideline, and take part in the European net. You might be cited by the FCC, but at least you would have an answer.

Many amateurs, of course, would prefer not to take the risk, and that might be the wiser course. Nevertheless, often the fear of having trouble with authorities actually gives those authorities more power than they really have by law. It's not for me to decide for anyone else what to do or what not to do. I merely give the facts as I know them and let the reader decide. But if anyone is interested in checking into a European traffic net, try the Swedish Maritime Net on 21,045 kHz at 1230Z. □

RFI

(*continued from page 8*)

vacuum cleaner, sewing machine and electric drill. The roaring sound can usually be corrected by a bypass capacitor to ground.

Newer electric blankets are controlled by a snap-action device. You only hear a click on the radio. The older ones radiate a roaring, scratching sound.

Why would a tropical fish enthusiast spend hundreds of dollars for a fish tank, stock it with valuable fish, and economize on the water heater? The heater is in a glass test-tube submerged in the water. The cheapies sound like a Model T Ford spark coil whining away in erratic on-off breaks. Good heaters cause no RFI.

On TV channel 2, have you seen two narrow horizontal lines creep slowly upward? This RFI cannot be heard on a radio receiver. This is an obscure RFI with an unusual source. It is caused by a certain model of 25-watt GE light bulb! The phenomenon is called Barkhausen's oscillation, which is somehow generated in the light bulb.

The basic corollary to tracking down RFI is this. The higher the frequency on which you hear the RFI, the closer you are to the source. Start tracking with a receiver on 14 MHz. When you get to a location where there seems to be a peak, switch to 50 MHz. When you find a peak there, switch to 2 meters. By this time, you are pretty close to the RFI source. If you can find an aircraft radio receiver, use it (120 MHz amplitude modulation). It is ideal for hunting RFI.

When you find the RFI source, use psychology in explaining it to the people. Don't say the device is causing interference to Amateur Radio. They probably won't care. But if you tell them they are interfering with TV, they'll be more concerned. Bill then showed us a slide of a TV picture with Amateur Radio or CB interference. It had a diagonal herringbone pattern. He said "We'll continue to have this kind of problem until we get a tough RFI bill through Congress."

You can't start your anti-RFI program until you properly ground *all* the equipment in your station. Use four 8-foot copperweld ground rods spaced 6 to 10 feet apart. Tie them all together with #6 or larger wire. Then run *one* heavy lead to your radio equipment. Be careful that the length of the lead from the ground rods to the equipment is not resonant at amateur frequencies.

One last thing. "If you don't get anything out of this program, remember 'Look Up and Live,'" emphasized Bill. "There are just too many TV, CB and amateur antennas getting into power lines. There are too many lives being lost due to this carelessness."

A book review

When Bill started his discussion, he said everything he was telling us was in his book. True. However, I read his book before coming to the forum and can honestly say there is a great deal more in the book than he had time to cover in the hour allotted for the forum. For example, there are two chapters in the book devoted to power line RFI alone that would make the book a "must" for anyone with this kind of problem, including power company RFI investigators. As you glance through the pages, the photographs, diagrams and common sense organization tell you this is truly a unique book in its field. I recommend it highly for every serious radio amateur.

Interference Handbook by William Nelson, WA6FQG, Former RFI Investigator, Southern California Edison Company. Edited by William I. Orr, W6SAI. Available from dealers who sell Amateur Radio equipment or direct from the publisher for $8.95 plus $1 for postage and handling. Radio Publications, Inc., Box 149, Wilton, CT 06897. □

Young Novice

Submitted by Gerald Olson, KA9LHB

Shanon Olson, KA9MDZ received her Novice license on 20 November 1981 at the age of 11. Shanon works 40-meter CW from her home in Oglesby, Illinois.

She began working on her Novice ticket at age 10. Shanon is also active in Girl Scouts, school band and track. She is working on her General ticket and hopes to upgrade before the end of 1982. □

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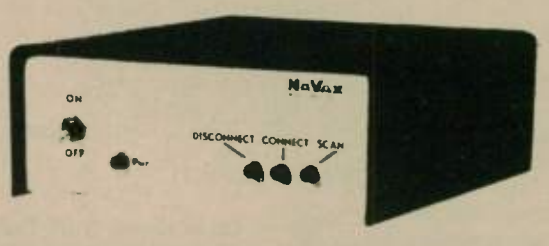

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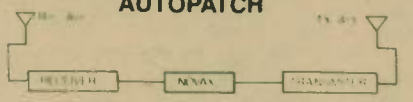

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World Radio History

Ron Flynn, KB8LU

Announcements about experiments and new developments in SSTV have been coming at a rapid rate lately. As this is written, 10 April, Dayton is just two weeks away and I'm sure we'll see more new things and maybe a few surprises there.

Jim Thomas, WB4HCV has been experimenting with the transmission of full-color SSTV pictures in one 8-second frame. Jim made his first successful 8-second color SSTV transmission in late March to WA7WOD on 14.230. No standards or format have yet been set. Experiments are continuing, and I will have more details next month.

Sam Mormino, WA7WOD has announced the development of a new mod for the Robot 400 which will allow full screen display of an SSTV picture. This is the so-called 4 × 3 aspect ratio. The Robot 400 has a 1 × 1 aspect ratio with 128 pixels per line and 128 lines per picture and blanking along the sides of the monitor. With the new mod, the entire monitor will be filled by the SSTV picture as is the case in viewing standard broadcast UHF/VHF TV. This mod will be shown at Dayton and will be available after that.

For those of you using a three-memory Robot system for color SSTV, Rich Frankenfield, WA2QAF has developed an automatic sequential transmit mode and PC board which he has been using on the air since February. Rich uses a 1-9 numbered thumbwheel switch to select the number of frames to be sent from each memory. When the TX select switch on the 400 is moved to memory, you will automatically send "two, two and two," or whatever you select. When the sequence is finished, the output of the 400 will shut down. No more counting frames on your fingers. There is ample space inside the 400 to mount the 3" × 3" PC board. This mod can also be wired to work on a standard Robot 400 to automatically transmit the desired number of frames from the one memory.

I have received copies of Rich's designs and paperwork, and he has done an excellent job. Rich has turned this project over to Sam WA7WOD for distribution. The board and perhaps a do-it-yourself kit should now be available. Write to WA7WOD for more info, and include an SASE for return reply.

Following up on last month's column on computers and SSTV, Ken Rothmuller, WA6NFA has announced the development of a stand-alone software/hardware SSTV system for the Apple computer. It was first shown at a San Francisco computer show, 20-21 March, and will next be seen at Dayton at the Commsoft booth. This system will be available later this summer. It features 16 grey level shades, increased resolution, RGB capability for color SSTV, and camera and other video inputs for direct snatch of pictures into the Apple.

Clay Abrams, K6AEP has written several SSTV programs for the TRS-80 C computer. His latest is the 7.5 program which features picture printing. Also included in this program are picture enhancement and rotation, plus a new modified keyboard program. Send an SASE to Clay (1758 Comstock Ln., San Jose, CA 95124) for a complete listing of his SSTV programs.

Bob Wilson, WB0RTM now has available very high-quality PC board interfaces for the TRS-80 color computer. These boards are made using the schematics provided with Clay Abrams programs. The following boards are available.

W-1	CW send and receive	$5.00
W-2	RTTY Xmit modulator	$3.00
W-3	SSTV Xmit modulator	$3.00
W-4	SSTV Xmit modulator/mixer	$5.00
W-5	SSTV receiver	$7.50
W-6	RS-232 for TU-170	$2.50

You can order direct from Bob Wilson, 205 Elm St., Van Horne, IA 52346. Also add $1 for shipping.

I am happy to report that WA7WOD, WB4HCV, K6AEP and others working on new SSTV developments are considering compatibility as a major criteria for their products. They are very hesitant to change any of the standards in use today on SSTV. Their modifications and new developments will keep the SSTV community together and not send totally incompatible SSTV groups off to separate frequencies. Today, black-and-white, color and computer SSTVers can all work on the same frequency and enjoy the same pictures. If 8-second color SSTV becomes popular, I'm sure decoders will be available so that all can see the pictures in either black-and-white or color.

Other innovations

Tom Hibben, KB9MC has created an animated motion mod and technique for three-memory Robot systems. By connecting the video outputs of each memory — through a switch — to a single black-and-white monitor, you can view the pictures in each of the memories and switch between them. A picture of a subject in various poses can be loaded into the different memories and by switching back and forth, you will see animated motion on the black-and-white monitor. The SC422A scan converter comes equipped with this feature. Tom has two versions of this mod. The first has manual switching between memories and the second features automatic electronic switching between memories at variable rates.

Send an SASE to KB9MC and include an extra stamp or two and Tom will send you both versions.

Although not a new technique, Leo Tevlin, W0TV, myself and others have been independently experimenting with 3-D SSTV pictures in color and black-and-white. One method uses two monitors set side by side, one for each eye, with the picture positioned differently in each monitor. A second method uses only one monitor and a mirror for the other eye. The third method uses a color monitor and a three-memory system. The picture is received over the air or loaded from tape into the RGB memories in a slightly different position by varying the width control of the 400 slightly for each memory. A red and green filter is placed in front of the eyes just like the 3-D movies of the '50s. If you are interested in experimenting with 3-D SSTV, drop Leo a line (7702 Circle Dr., Normandy, MO 63121) and tell him what you are doing, or write me about your experiments.

If you have a standard Robot 400 and are looking for a new source for SSTV pictures, Perry Hindman, KC4TT has sent me details of how he snatches live pictures from his VHF/UHF TV set. Perry uses an AC/DC TV set. If your TV is of the "hot chassis" type, you will have to plug it into an isolation transformer to protect the 400 circuitry. Perry picks up the video signal after the video amplifier in the TV and feeds it into the From Camera jack on the back of the Robot. Watch the voltage of the video signal! Perry picks up 5VDC and places a 5mfd 12-volt capacitor across the video output of the TV. The TV set will act just like your camera and you can snatch pictures directly into memory. You have an unlimited supply of SSTV pictures!

If you want more information, write KC4TT (2854 Dug Gap Rd. SW, Dalton, GA 30720), and include an SASE.

Robot mods

I have described several mods for the Robot 400 in a previous column. Many people have asked me where they can get the schematics and directions for installing these mods. Following is a list of some of the more popular Robot 400 mods of the past year or two, the author, and where it was published or how to get a copy of the mod.

"128 Lines ½ Speed TX/RX" by WA7WOD and WA4OAA
Allows you to send and receive a full-frame SSTV picture in 16 seconds. Better pictures in QRM conditions
Published in Nov./Dec. 1981 A5 Magazine or send SASE to WA7WOD

"Light Pen for the Robot 400" by G3OQD
Allows you to "write" on your monitor and have the characters superimposed on the picture in memory.
Published in Nov./Dec. 1981 A5 Magazine

"Four Quad Mod" by KD6HF
Described in April 1982 Worldradio
Published in Nov./Dec. 1981 A5 Magazine or send SASE to WA7WOD

"Zoom Mod" by KD6HF
Described in April 1982 Worldradio
Send SASE to WA7WOD

"Graphics Overlay Mod" by KB9MC
Described in April 1982 Worldradio
Published in March 1982 A5 Magazine or send SASE to KB9MC
*Original KD6HF version follows in this column

"First Sync Mod" by KD6HF
Described in April 1982 Worldradio
Details follow in this column

The Nov./Dec. issue of A5 Magazine is sold out and no back issues are available. However, Ralph Wilson, WB0ESF, 4011 Clearview Dr., Cedar Falls, IA 50613, has high quality reprints of all A5 back issues and articles available. The Nov./Dec. 1981 reprint of A5 costs $2.50 ppd. Ralph has a master list of all A5 articles for $1.

To contact WA7WOD, write Sam Mormino, Rt. 4 Box 634-K, Lindale, TX 75771. To contact KB9MC, write Tom Hibben, Box 188, DeSoto, WI 54624. When requesting mods from either gentleman, *be sure to include an SASE* and maybe an extra stamp or two to help defray the costs of making copies.

Construction hints

As promised, the schematics and details for installing two very popular mods for the Robot 400 follow. These mods function independently, and either or both can easily be installed in the Robot 400. Both of these mods make use of unused portions of ICs on the 400 board. If you have a new Robot still under warranty, you may wish to wait until the warranty is up. These mods will void the warranty. Don't hesitate in taking the cover off the 400 and installing a mod or two. You'll learn something and have lots of fun using them on SSTV, as hundreds of amateurs are now doing.

You will be carefully removing various ICs from their sockets on the 400 board, bending up selected pins of the ICs, and soldering a wire to the tip of that pin before reinserting the IC into its socket. See *Figure 1.*

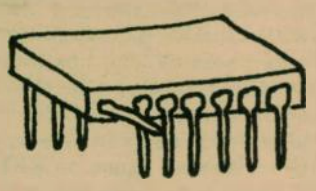

Figure 1

You will need the IC layout for the 400 board and some #22-30 insulated hookup wire. Stranded works best. In soldering on ICs, you should only use a small DC iron. Apply only enough heat to the tip of the pin to melt the solder. Too much heat will ruin the chip. As an added precaution, I place a small alligator clip on the IC pin between the tip where I am soldering and the plastic case of the chip, to act as a heat sink. Refer to an IC book or components catalogue for proper pin identification. Use needlenose pliers to carefully bend up IC pins.

You may wish to judge the lengths of hookup wire needed and solder them to the IC pins before you reinsert the ICs, rather than solder over the 400 board.

First sync mod

This mod — developed by Howard McAfee, KD6HF — is the most useful mod I've seen for everyday SSTV use. When the TX select switch on the Robot 400 is moved from voice to memory, a sync pulse is generated which resets all receiving monitors and simultaneously resets the memory address to transmit the picture right from the top of the frame. You will need hookup wire, three 10K ¼-watt resistors, and a 22-47mfd electrolytic capacitor. See *Figure 2.*

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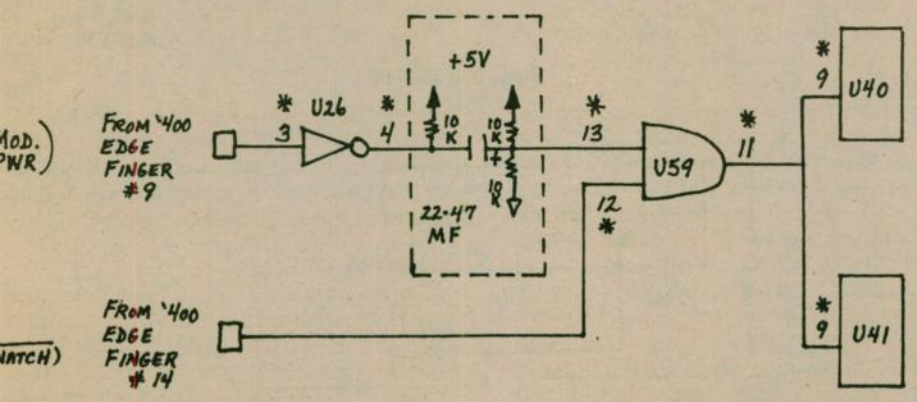
World Radio History

Remove U26, U59, U40, and U41 and bend
ne pins marked with *.
Solder hookup wire to tips of bent-up pins
reinsert ICs into sockets.
Solder the RC network together and solder
the 400 board in a convenient place. Be
capacitor polarity is correct. The 5VDC
ground buss' at the top and bottom of the
ows is a good spot to solder the 10K
tors.
Solder the hookup wires from U26 and U59
e RC network.
Solder the wire from U26 pin 3 to edge con-
r #9 on the 400 board.
Solder the wire from U59 pin 12 to edge
ector #14 on the 400 board.

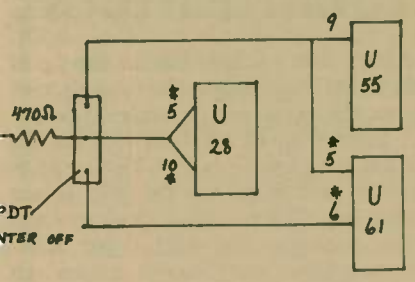


ure 2

nat completes the mod. Load a picture
memory and switch the TX select
ch from voice to memory. Your
itor should blink once. This shows
it is working. If it double blinks, you
d more capacitance. Use a 47mfd
acitor.

phic overlay mod

his mod was first created by Howard
Afee, KD6HF. There are many ver-
s around, but this is the simplest. It
been revised slightly, by KB9MC,
n the original so that it will work on
standard Robot 400. In this mod,
ides soldering on ICs, you will need to
all an SPDT center-off mini or micro
gle switch in the front panel of the
ot 400. The best place would seem to
along the top somewhere in line with
two LEDs. There is ample space to
k and the wires are easily run to the
on the 400 board. Besides the mini or
ro SPDT center-off toggle switch, you
need one 470-ohm ¼-watt resistor
hookup wire. See *Figure 3*.



ure 3

Remove U28 and U61 from their sockets,
d up pins marked with *, solder hookup
e to these pins, and reinsert ICs back into
r sockets.
Remove U55 from its socket. You will note
pin 9 is *not* bent up. The hookup wire must
very carefully soldered to the shoulder of
pin. Then U55 is reinserted in its socket.
Carefully drill the proper sized hole for
r switch in the front panel of the 400 and
unt the switch. Be sure all metal shavings
removed.
Finish wiring by soldering wires from ICs
witch lugs and solder resistor to switch and
und.
Your new switch will be labeled WHITE
one side, BLACK on the other, and the
ter OFF position will put the mod out of
.

How does it work? First load a picture
nemory from camera, tape, or received over the air. Leave the continue/hold switch in hold. Put the display switch into camera and the memory input into camera. Focus your camera on the graphics you wish to superimpose over your picture. Adjust the snatch controls for sharp letters and true white or black contrasting background. Position your new mod switch to the color of the graphic letters, either white or black, and hit the snatch button. When you flip the display switch to memory, you will see your graphics overlaid on your picture in memory.

You can also overlay graphics from a keyboard or received over the air. Try one picture over another. Experiment and have fun with this mod.

40- and 80-meter SSTV activities

For quite some time, a large group of SSTVers on the East Coast has been meeting on 80 meters. Ted Barrett, W1IAA reports they meet every day on 3845 kHz from around 1100 to 1300Z. I understand they discuss SSTV and computers as well as send some nice pictures. If you are up that early, check in with this group.

KB9MC and myself have been working 40-meter SSTV for over two years. We meet each Wednesday morning at 1430Z around 7160 kHz. WØTV, Everett Omahundro, KBØWG and others have joined our group recently. Come join us here in the Midwest.

If you know of any regular SSTV QSOs on 40 and 80 meters, write and let me know about them or tell me on the air. I'll mention them in this column. Maybe we can stir up some more SSTV activity on these bands.

Next month — a full report on Dayton, 1982. 73s, Ron Flynn, KB8LU, Rt. 2 Box 204, Bangor, MI 49013. □

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ARRL Forum

(continued from page 12)

on the Foreign Relations Committee. Ask them to speed up the ratification of the WARC Treaty.

ARRL is urging the FCC to start work in the new bands, pending ratification. A League attorney has found precedent cases to show that the Commission is not legally bound to wait until ratification before it holds hearings on the use of the bands.

CATV interference

Because of cable TV RF leakage problems all over the country, the League has filed a petition with the FCC, asking that CATV be prohibited from using frequencies (within their cables) that are used by the Amateur Service. The petition got the cable TV industry's attention. CATV industry leadership heard for the first time, in some cases, that a problem really exists. They now want to negotiate and have asked for an extension of time to comment. Jay is pleased that the League is taking a leadership role on this problem. They have assigned Rick Palm, K1CE to work on this problem for the next several months. He will carefully monitor all responses and actions on this subject.

The new General Manager

Steve Cerwin, K6OJO told Dave Sumner: "They say a new broom sweeps clean. I'd like to hear what you're going to sweep out." Dave responded that it sounded like a question he was asked in the interview process. At that time, he answered, "If it means 'Am I going to fire somebody — no.' We have a fine Headquarters staff. K1CE here is an example of the kind of young, dedicated amateur we have on the Headquarters staff today. Rather than make general statements, I'd rather respond to specific questions.

"We can't do everything at once. We want Headquarters to be of more assistance to you, the members. Headquarters is an administrative service center, especially to the members who are volunteers in the field." Cerwin said, "I'd like to hear you say, "The buck stops with me.'" Dave answered that would be a good way to put it.

Sumner explained that he was a volunteer staffer in the summer of 1968 and 1970, and in the Technical Department for five months in 1971 before permanently coming on the staff in 1972.

He is an "on-the-air" person. He likes to take part in competitive activities, especially CW. He is a DXer and a 160-meter enthusiast.

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Printing

In response to a question about QST printing times, Dave explained that the May 1982 QST would go to the printer on 8 April. If some late news was important, it could be put into "League Lines" on 8 April. A member asked why the League didn't have on-site printing facilities. The League does have one color press, but the cost of a multi-color press would be prohibitive since it takes only two days each month to print QST on contractor's presses.

A member asked why advertising was taken out of the Handbook. Wouldn't advertising bring down the cost of the book? Advertising was dropped many years ago when the additional weight of advertising was wiped out by the additional postal rate because of the heavier book. However, Dave said he would be willing to look into this again.

Affiliated clubs

What happened to the Blue Ribbon Club program? It was found there were as many concepts of "Blue Ribbon" as people. What the league would like to accomplish is to get local clubs to accept more responsibility for Amateur Radio at the local level. PR programs, tower problems and TVI are some examples. The League will provide recognition to clubs to get them motivated in this direction.

Look for an improvement in training materials. The League, in the last few months, has bolstered the staff in this department. —

Close call

Neighbors of Clyde Stanfield, WA6HEJ in Upland, California had a few anxious moments the morning of Sunday, 28 February. Around 9:30 a.m., a large hot air balloon carrying three people floated over Clyde's home, missing his 50-foot beam antenna by only 4 feet. Clyde was in the shower when neighbors asked Clyde's XYL to lower the antenna: by the time he got outside, it was too late to lower the beam. The balloon landed safely in the street. —

HAM means . . .

When Brian L. Oertel, WB9TPA was asked what "ham" means or what it stands for, he honestly didn't know, so when asked, he stated what he knew to be true. The word "ham" stands for: H — helping, A — all, M — mankind!
— *Indianapolis Repeater Assoc.* □

HAPPY FLYERS

(continued from page 39)

done by volunteers. In some areas, you may not even have to join to be helpful. One need not be a member to fix a radio for an SAR group. If you offer and are not treated like you are needed, check with someone else in your area. Volunteers have many different personalities — not all nice, but most are great. It is not right that someone die because we are not properly prepared. *YOU ARE NEEDED!* □

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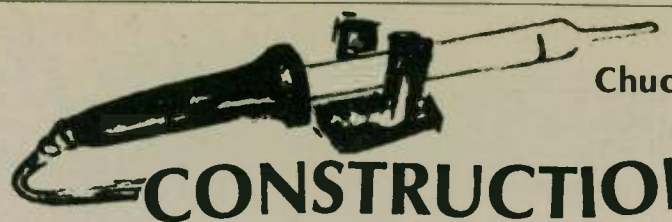

CONSTRUCTION

Chuck Clark, K4ZN
Assistant Director
Roanoke Division, ARRL

More on the VXO

Crystal oscillators provide a sure cure for drift problems, for one frequency anyway. But often we are interested mainly in just one frequency or a very small range of frequencies. In the latter case, we can have the stability of crystal control and still vary the frequency over a range of a few kilohertz. When we use the heterodyne beat between two such oscillators we can extend the range considerably, and in addition we can often make use of crystals available on the surplus market at a cost of one-tenth or less of that of new crystals manufactured for a specified frequency. There were 50 million of them made during World War II, and a lot of them are still around.

Such a variable crystal oscillator (VXO) can be used to control a transmitter on the oscillator's frequency or on any harmonic. It can also be used to provide the local oscillator signal for a superheterodyne receiver. By using crystals close enough in frequency to give a low-frequency output and then multiplying it, a dual-oscillator VXO can cover a wide range. For example, if you happen to have crystals for 8008 and 8450 kHz that can be tuned between 8005 and 8010, and 8447 and 8452 respectively, the difference varies between 437 and 447 kHz. Multiply that by 16 and you get an output varying between 6992 and 7152, covering the entire 40-meter CW band. When you multiply to VHF, you hardly need to heterodyne two VXOs, as 5 kHz shift at 8 MHz multiplies to 90 kHz at 144 MHz.

For SSB transmitters

Except for homebrew CW transmitters (an endangered species), most rigs these days generate their RF by heterodyne methods, using a VFO that sometimes is lacking in stability. For single-frequency operation, this instability can be cured by crystal control, too. For normal amateur use, the instability is usually not too serious, merely requiring retuning a bit every few minutes to compensate for drift. But in some cases, such drift is unacceptable. Amateurs in the MARS program, for example, operate outside the amateur bands on frequencies allocated to the fixed service, where frequencies must be kept within tight tolerances (within 20 hertz or so of the specified frequency). And those who operate Teletype must maintain their mark and space frequencies quite accurately for clean copy. Even ordinary CW, in some cases, can be hurt by transmitter drift because some operators use very sharp filters to cut through the QRM, and if you drift out of the passband, you won't be heard.

Here at K4ZN, I have been using a Swan 350 that has instability problems caused by the contacts in the bandswitch for the VFO. The formula for finding the resonant frequency is usually written with only inductance and capacitance, but actually resistance also should be included. Normally, its effect on the resonant frequency is slight, but even that slight effect can be serious when you are trying to hold a frequency constant within a few parts per million.

For fixed frequency operation, a VXO seemed to be the answer. This is not intended as a project for exact duplication, but rather as one way it can be done — as an idea article — leaving it to each builder to adapt it to the needs of the particular amateur station that is to use it. While it is shown for use with Swan rigs, the circuit could be used with any transceiver that has provision for an outboard VFO.

As originally supplied, the Swan 350 did not have provision for an external VFO, but a kit was available to modify the transceiver so that one can be used. All that is needed is to install a socket on the rear of the cabinet (the hole is provided), remove two wires, and connect the socket leads to the proper points in the circuit. The Swan 500 already has this socket installed. A 9-pin socket is used. But if you are modifying a Swan 350 to use with a homebrew oscillator, you can just as well use a much more common octal socket.

Figure 1 shows both the modification required on the Swan 350 and 400, and the circuit of the VXO. More complete details on modification are contained in the transceiver operator's manual, so will be omitted here. If you're using another rig, such as an EICO (also notorious for drift problems), some things will be different, but a little ham ingenuity should point the way to go.

The VXO

As can be seen in *Figure 1*, the circuit uses two crystal oscillators (transistors Q-3 and Q-4), a transistor mixer (Q-5 and Q-6), and an amplifier with emitter follower output (Q-7 and Q-8). Switch S-1 selects the crystals and the capacitor to resonate with L-3. Switch S-2 selects

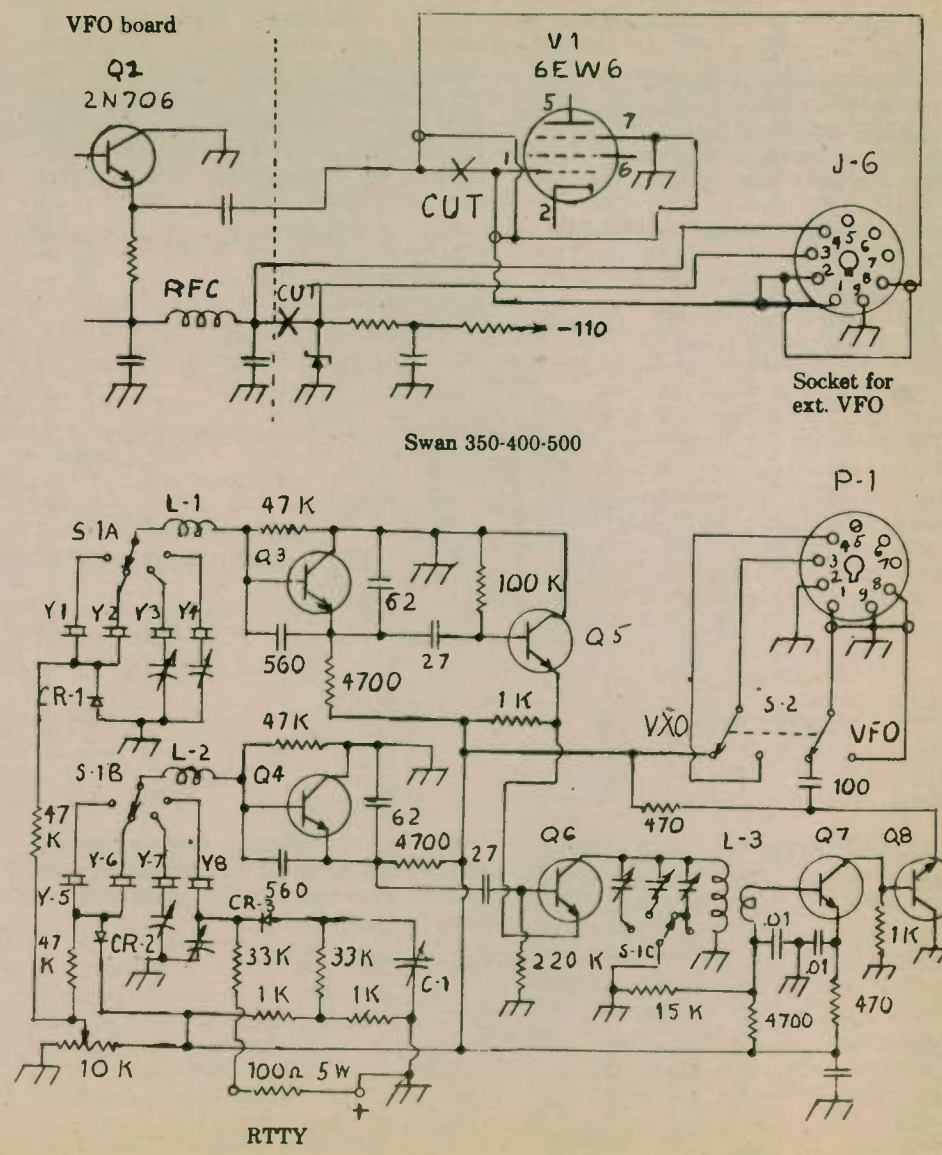

Figure 1

either the VFO in the transceiver or the VXO as the frequency control.

The only thing that seems to need special comment is the method of tuning the crystals. Three methods are shown. The simplest is used for crystals Y-3 and Y-7, a variable capacitor in series with each crystal. For fixed-frequency operation, such as on a MARS net, small trimmer capacitors may be used. If you want to be able to adjust frequency while

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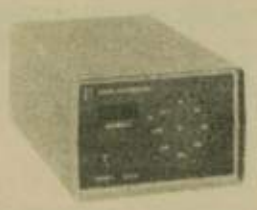

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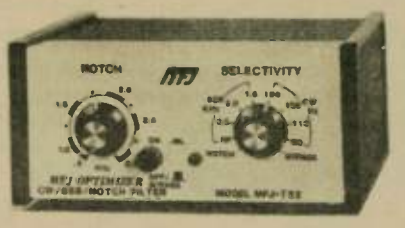

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World Radio History

operating, you can use either a differential capacitor (a variable capacitor with one set of moving plates and two sets of stationary plates, sometimes available in the surplus market) or two ordinary variable capacitors ganged together so that one is at maximum capacitance when the other is at minimum.

The circuit used with crystals Y-4 and Y-8 is similar, except that it has been modified to allow frequency-shift keying for transmitting radioteletype (RATT or RTTY). When the Teletype's contacts are closed, loop current passes through the 100-ohm 5-watt resistor, and the resulting 12-volt drop is applied to diode CR-3, causing it to conduct and connect C-1 to Y-8, lowering the frequency. When the Teletype's contacts are open, no current flows and CR-3 is reverse-biased, so C-2 is disconnected from the crystal and the frequency is higher. C-1 can be adjusted to give the required frequency shift.

One problem some builders may encounter is that variable capacitors are harder to find these days. The circuit used with crystals Y-1, Y-2, Y-5 and Y-6 shows one way to solve this problem. Diodes CR-1 and CR-2 are used as voltage-variable capacitors, and adjustment of the 10,000-ohm control will vary the voltage across these diodes.

Note how the two diodes are so connected that the voltage across one of them is maximum when the voltage across the other is minimum. A semiconductor diode, when reverse-biased, does not conduct, but the charges on opposite sides of the junction attract each other just as in a capacitor. As the voltage across the junction is increased, however, the junction depletion layer widens, producing the same effect as moving the plates in an ordinary capacitor farther apart, reducing the capacitance.

Any semi-conductor diode exhibits this property, but you can purchase specially selected diodes (called Varicaps, varactors) that are sold for this purpose. I didn't use this method of tuning the crystals in the unit I built, however, as I had suitable variable capacitors on hand. But I did try it while developing the circuit and found that a defunct power transistor (type unknown, except that it was NPN silicon) worked quite well, with a capacitance of about 30 picofarads maximum. The transistor had failed by "second breakdown" where a short develops between emitter and collector, but the base-emitter and base-collector junctions were still good.

I used the circuit of *Figure 2* to measure the capacitance. Inductance L is a 5-microhenry coil I use as a standard for measuring capacitance with the dip meter. Use the dip meter to measure the resonant frequency, then find the corresponding capacitance by formula. (I have a chart pasted on the dip-meter box that saves doing the math.) Adjust the voltage, and you can develop a voltage-capacitance curve for the particular diode. (I wonder how many will comment that the dip-meter is shown in the wrong position in *Figure 2* — it has to be coupled to the coil if you want it to dip!)

Coils L-1 and L-2 are not absolutely necessary, and many VXOs are built without such coils. But they do serve to extend the range over which the oscillator will operate. They have an inductance of about 20 microhenries, and each consist of 60 turns of #30 wire on a T-50-2 toroid. As most of the crystals used in my unit are in the 7.5 MHz range, a 25-picofarad capacitor gives series resonance with these coils. Because the crystal has such a high Q, however, detuning the circuit a megahertz shifts the frequency only a few kilohertz. With only the capacitor, the frequency can be shifted upward only. But the addition of the coil makes it possible to go below the crystal's nominal frequency as well.

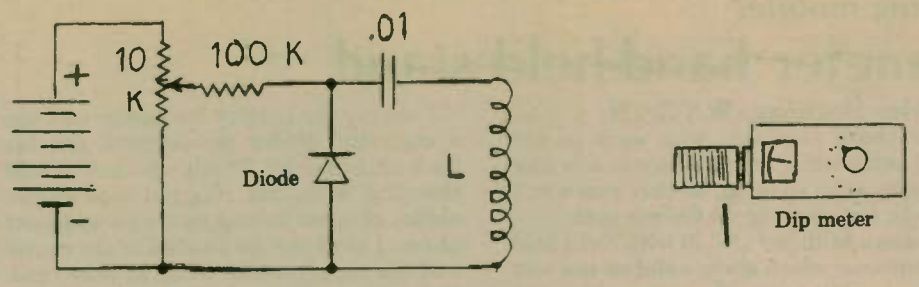

Figure 2

Coil L-3 performs the important function of filtering out spurious frequencies. Mixing two frequencies generates not only the sum and difference of the two, but also a whole spectrum of harmonics of each, and the sums and differences of all these harmonics. This coil in my unit has an inductance of 2 microhenries, 18 turns of #30 wire on a T-25-2 toroid, with the coil for driving Q-7 consisting of eight turns.

Selecting crystals

You don't get something for nothing. You save a pile of money by using surplus crystals in this way instead of getting a manufacturer to produce the exact frequencies you need. But you have to do a lot of figuring to pick out the crystals needed to get a desired frequency, especially if you have a good-sized supply of them to pick from. It will take a lot of paper to do it the old way, and a pocket calculator is almost indispensable.

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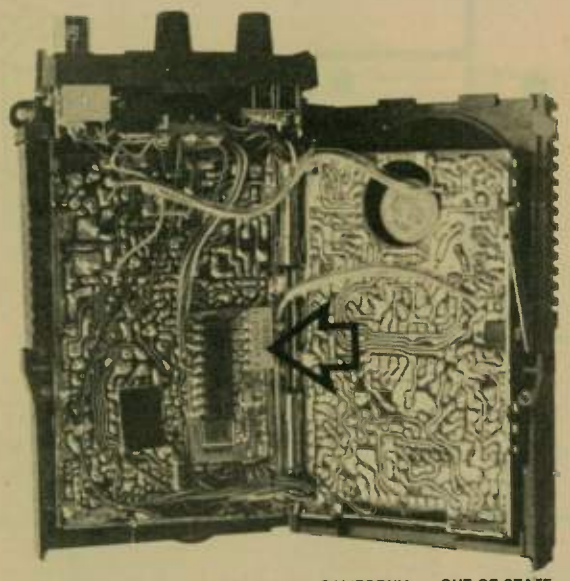

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World Radio History

O.K. You have finally come up with two crystals that have the desired sum or difference. Just plug them in, adjust to frequency and fire up the rig? Not quite. There is one more important step.

Check the harmonics of each crystal, and the sums and differences of these harmonics, and be sure that none is too close (within about 10 percent) of the desired output frequency. L-3 and the tuned circuits of the transceiver will reject spurious signals further away, but will pass them if they are too close. And spurious outputs is something you don't want. They use up power without producing useful radiation, and the radiation they produce can cause other people a lot of trouble (and you too, if the FCC turns it up!). □

Corroded cadmium

A recent "Tomorrow's World" television program and many other reports in the media have drawn attention to the potential risks of cadmium poisoning; for example, in the vicinity of zinc-smelting plants. Much less well-known is the health hazard arising from the possibility of inhaling or ingesting the "woolly" white powder (cadmium salts of organic acids) which sometimes appears as a deposit on cadmium plated metalwork (screw heads, switches, etc.) in electronics equipment.

It is therefore advisable to take reasonable precautions to remove any such deposits which are due to corrosion and which tend to appear in equipment that is inadequately ventilated, so that heat generated in the unit may cause fatty acids — as found in transformer impregnation and sometimes in the coatings of printed circuit boards, to migrate to any cadmium-plated metalwork.

Cadmium corrosion can be removed, provided the following safety procedure is carefully followed:

Never attempt to blow away the white powder — for instance, by using an air jet. Use disposable plastic gloves; open and deal with the equipment in a well-ventilated area. Then, using a swab damped with water, wipe away all corrosion products in the affected area, changing the swab after each wipe in order to prevent any spreading of the powder.

Afterwards, the used swabs and gloves should be placed in a plastic bag and burnt in an incinerator. Make sure the treated surfaces are clean and dry, then apply varnish to the area.
(From "Technical Topics" of Radio Communications (RSGB)).
—*TCA, Ontario, Canada* □

That's a *hand-held*

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(de *The London ARC Bulletin)* □

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Going mobile?

2-meter hand-held stand

Charles Hoffman, WA4TYN

For those amateurs who want to use hand-helds while mobile, here is a holder you may wish to build, so that you won't have to lay your rig on the car seat.

I have a Midland 13-520 with hand-held microphone, which always slid on the seat when I pulled on the microphone to transmit. Also, I had to pick up the rig when I wanted to change bands. So I figured a better way could be made that would hold the transmitter and still give me ample workability without any trouble.

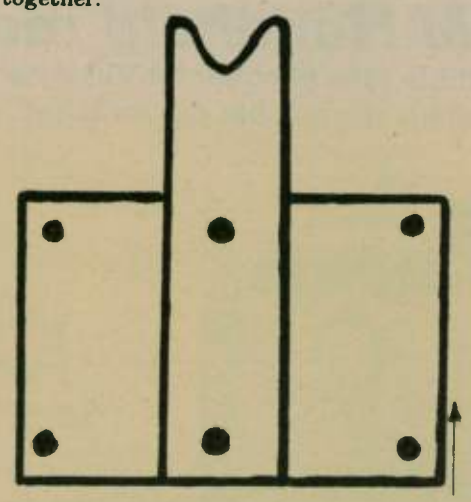
The holder can also be used by those who do not have hand-microphones. You can make the holder to your own specifications and car.

I made the holder from scrap lumber that I had around the house. (It can be made from other material, if so desired.) I will not give any measurements, as each person may have a different car.

The base should be long enough to fit across and touch the hump, and end pieces long enough to touch the floor on each side of the hump.

The rig was set on base, and all four pieces of holder were fitted around rig to get the exact size. Allow enough space between the rig and sides so transmitter will lift in and out easily. Be sure to allow for any connection and plug holes that are on the rig.

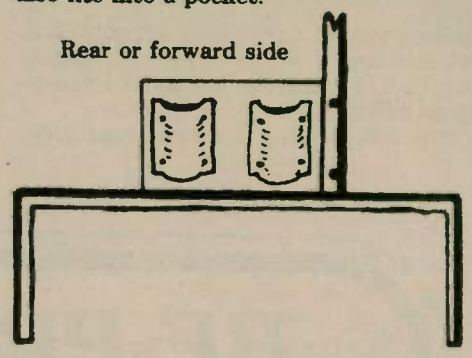
After marking, drill holes through base for holder and legs. Then screw the parts together.



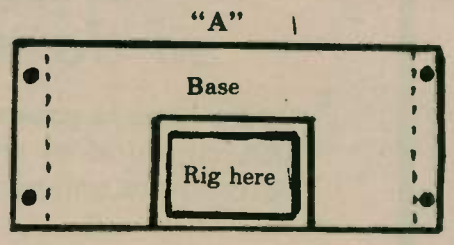
This side could be higher to accommodate regular microphone holder.

Microphone holder

I use my car battery for power, so I use a cigarette lighter power cord. On the back of the holder, I built a pocket to hold the plug when not plugged into lighter socket or when taking entire package out of car. I keep the cord coiled in the center and the rig connector loose at other end, so it will plug into rig. The coiled section also fits into a pocket.

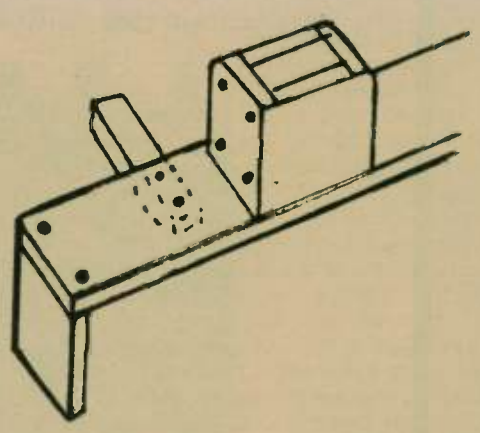


Pockets and antenna holder pockets made of aluminum



This edge at seat

View from top



(·) Flat head screws in counter sunk holes, both sides and bottom.

The micropone holder is made of metal strapping reinforced with plywood to keep it firm. The microphone holder could be the regular kind, fastened to the side by making the side a little higher.

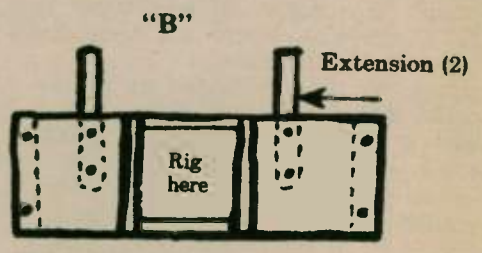
The antenna wire is held in place — when not connected to rig — by a holder with a wire wrap-around that is twisted around holder and wire to keep it from falling to floor.

Those who have a rubber duck instead of a magnetic antenna will not need the antenna holder. Also, if you do not use a car battery for power, you will not need the pockets.

One side of the holder goes against seat which holds kit solidly from moving backward.

You can use the method shown in either sketch "A" or "B". If you use the "B" method, you will need to fasten two extensions at the forward side to prevent forward tipping at sudden stops. Be sure extensions fit on outer edges of hump.

You can use either paint or contact paper to match the interior of your car. □



This edge at seat

Tips for indoor antennas

1. Install a ground system to a cold water pipe or ground rod.
2. Use a resonant antenna such as a dipole fed with RG-58 or 59.
3. Preferably, install the dipole in the attic, away from large metal objects (insulate antenna ends to prevent high voltage sparks). Otherwise, suspend the antenna from the wall or ceiling (behind a bookcase is a nice hidden place).
4. Route coax through a closet hole or alongside an air duct to rig.
5. Install several antennas at once to minimize attic work.
6. If living in an apartment, do antenna work covertly. Pre-dawn, quiet attic work is necessary to conceal your antenna farm.
7. Use an antenna tuner if necessary, but remember, resonant antennas are better.
8. Use a low-pass filter to reduce harmonic-causing TVI. (Other types of TVI may be present even with a filter.)
9. Consider not advertising your radio station by resisting the urge to get ham license plates for your car.
10. Develop a QRP operating procedure: listen a lot, call strong stations, and/or use CW. Participate in contests.

Using these tips (except #9!), Richard Doering, WA6CFM has contacted many stations. Antennas included monobanders on 10, 15, 20 and 40M (dipoles!). On a recent weekend, during the worldwide Radiosport contest using 100 watts out on SSB to indoor dipoles, the following countries were contacted: Spain, Portugal, Nicaragua, Italy, Czechoslovakia, Mexico, Peru, Finland, Canada, Haiti, Guantanamo Bay (U.S.), Alaska and Hawaii, Hungary.

A week later, a 20-meter W8JK antenna (two phased dipoles) was installed and a little gain and improved side-lobe rejection was noticed. Multi-band operation was hoped for but not obtained.
— *Argonne ARC, IL* □

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OLD TIME RADIO

W5JJ

Carl C. Drumeller

The saga of a wireless amateur

This is the saga of an amateur of wireless telegraphy. His name is Milton C. Fruehauf, and his present call is W8TZ — a reversion, after a series of intermediate ones, to the 8TZ he got from the Department of Commerce many years ago.

Like many others, his interest was triggered late in 1918 by an article in a boy's magazine, probably **American Boy**, that told how to build a simple wireless receiver. He was 12 years old at the time, and the wartime restrictions against the possession of any item of wireless equipment had just been relaxed. He could have a receiver without being arrested as a German spy! This receiver was the classical simplest possible: a detector between antenna and ground, shunted by headphones. That detector — which, incidentally, would have made an excellent microphone were it used in series with a source of electrical current — consisted of two safety razor blades mounted vertically and parallel on a block of wood. Across the edges was placed the carbon of a soft lead pencil carefully extracted from its wooden sheath. It worked! NRH, a Naval station some four miles away, gave him his first wireless signal.

This wireless receiving station was in Cleveland, Ohio, and its antenna was one I hesitate to describe . . . I wouldn't want any person to try to use one like it! Anyway, the antenna was one leg of a 115-volt powerline running from the attic of his house to the barn, about 100 feet away. As this was energized only when the switch to the attic lights was turned on, it had periods of non-lethal potentialities. As the receiver was in the attic, it was a convenient antenna. Just one nerve-shattering experience with fireworks spurting from the detector when that attic power switch was inadvertently turned on was enough to encourage Milton to put up a more conventional antenna!

Listening to NRH, Milton taught himself to copy International Morse Code. It took time. It took determination — even dedication. But that dedication paid off. It started him on not only a hobby but a career.

Once he'd "caught the bug," he was firmly hooked. From a library he procured all available books on wireless. From these he learned how to expand his receiving station, progressing to a two-slide tuning coil used in conjunction with a conventional crystal detector (catwhisker plus galena or silicon crystal). Next he built a loose-coupler and added external loading coils so that he could receive the 2500-meter signals from NAA — the Naval Observatory station at Arlington, Virginia — which transmitted at noon and again at 10:00 p.m.

Further reading in his boy's magazine revealed that he could obtain a license to transmit, and that if he wanted to obtain additional information, to write to Herbert Hoover, c/o Dept. of Commerce, Washington, D.C. He did. About a week later, there arrived a notice instructing him to appear for examination at the Federal Building in Cleveland. It carried the seal of the Dept. of Commerce and the signature of Herbert Hoover. Considering this to be an order, Milton rode a streetcar to the Federal Building, where Radio Inspector S.W. Edwards administered the examination to Milton and one other hopeful applicant. As was the practice in those days, the Radio Inspector used a mechanical device — an Omnigraph — to send the 10 wpm code test. Having passed that hurdle, the applicants were given the written examination. This, among other things, asked for diagrams of a transmitter and a receiver, with an explanation of the functioning of each component. Then, too, there were the customary questions on the distress signal and on Q signals. The two applicants left the Federal Building with no clue as to whether they'd passed the examination.

In about a month, Milton received that prized document: Amateur Operator's License and Amateur Station License; the call was 8TZ. Now for a transmitter! A Ford spark coil powered by a toy electric train transformer put sparks across a straight gap . . . that was enough to make contacts with local amateurs, thereby initiating beautiful friendships. A ¼kW transmitter also using a straight gap followed. The note of such a transmitter was nothing to be proud of; therefore he undertook the construction of a rotary spark gap, assisted by his father. A vacuum cleaner motor spun a three-electrode rotary gap.

Later he used a synchronous 1800 rpm motor to turn a four-electrode rotary spark gap; this required laborious adjustment to achieve the sought-for 120 Hz note — a note that many an old-timer recalls with nostalgia. This gap was used with a homemade oscillation transformer constructed of 1-inch-wide brass ribbon wound, pancake fashion, on red fiber cross members. The spacing between "pancakes" was adjusted carefully to achieve a compromise between a beautiful note and maximum antenna current. Tuning the primary of this oscillation transformer was a homemade fixed capacitor. Constructed of glass photograph plates (scrounged from varous local photographic shops) sandwiched with brass conductive plates, the whole unit was immersed in transformer oil to reduce brush discharge. Powering this was a 25,000-volt Thordarson transformer, a true kilowatt when run wide open. A reactor in the primary permitted operation with reduced power. To take the output of such a transmitter, Milton used a six-wire flat-top of "T" configuration, with a 10-foot spreader at each end. A cage-type feeder was used. This antenna was about 90 feet in length, supported at each end by 15-foot pipes mounted on two-story buildings. As this was a Marconi, a good ground was essential. And Milton had such a ground system. Six wires ran out to a multitude of buried metallic objects — old water tanks, odd lengths of pipe driven deep into the ground, etc. This ground paid off; the antenna current was 5 amperes!

The crashing noise of a rotary gap, although sweet music to the ear of its proud owner, was not appreciated by others. This necessitated building an enclosure for the gap to confine the aural radiation — a far cry from present worries, which relate to shielding electromagnetic radiation!

The receiving portion of his station kept step with the improvements of the transmitter. A two-filament Audion vacuum tube replaced the crystal detector. This tube had a "soft" vacuum; because of that, it required exacting adjustment of its plate voltage to achieve maximum sensitivity . . . and that spot was just short of the voltage that resulted in a paralyzing ionization of the tube! Later, "hard" tubes, such as the Moorehead and the DeForest were used. Although perhaps not as sensitive (many old-timers swear that the two-filament Audiotron never has been equalled in this respect), these were much less demanding of ticklish adjustment. The loose-coupler was set aside in favor of that "standard" of the day: a varicoupler followed by a variometer to tune the detector's input, followed by another variometer in the plate circuit to induce regeneration. These, of course, were homemade.

Such a station enabled Milton to chat with other amateurs all over the central and eastern states as well as Canada.

Wireless is never static. No sooner does one acquire the "ultimate" in one type of equipment than something comes along that makes the once-proud owner feel he's driving a Model T Ford! By the early 1920s, vacuum tubes were becoming more readily available; even a few transmitting types were being advertised in QST. Like many others, Milton bought a UV-202 "5-watter" and incorporated it in a Hartley circuit. It sat beside the 1kW spark . . . and worked more distant stations!

But an era was coming to a close. Spark — with all its crashing sounds, its smells of ozone, its aura of mighty power — was losing ground to that little pip-squeak, the vacuum tube.

The famous Trans-Atlantic tests of 1921 and 1922 showed that continuous-wave telegraphy could do better at contacting distant stations that could discontinuous-wave (spark) telegraphy. Then, in 1924 the Department of Commerce opened up the high frequency spectrum (at least, the lower portion thereof) to radio amateurs. here CW telegraphy had no rival. Although Hertz had used spark on as high as 400 MHz, most persons believed it to be useless above 2 MHz, and amateurs did not attempt to use it in the HF spectrum. So spark, once 'King Spark," was on its deathbed when outlawed in 1927. A few die-hard radio amateurs quit the game when spark died, just as a few quit when "SSB" replaced "AM" in radiotelephony many years later.

Milton, however, took the new techniques in stride, developing his station through all the stages and keeping abreast of new developments.

This ends his saga as an early amateur of wireless telegraphy, but not his connection with electronics! His many achievements as a professional in that field have brought him many honors, such as a Fellow in the prestigious Radio Club of America. Now retired from the AT&T, he maintains his activity in Amateur Radio, having 63 years of brass-pounding to his credit. May he have many more!

Howard Hughes call

Howard Hughes, Jr. held the call 9CY, according to the 1920 U.S. Department of Commerce listing of Amateur Radio stations. His residence was in Houston, Texas, and he ran 500 watts. □

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World Radio History

Surge suppressors

Kalglo Electronics Co., Inc. has added a new model to its line of surge suppressors especially designed to protect sensitive and expensive electronic equipment such as computers from damaging power line transients, high voltage surges, and conducted electrical noise interference.

The new Quad series with four filtered outlets is in between the popular Deluxe Power Console with eight switched outlets and the Mini series which has two outlets. Many computer systems such as the Apple need more than two outlets — usually three outlets.

Therefore, the new unit is just what is needed. The Quad-I has transient absorption only, while the Quad-II has transient absorption and dual three-stage low-pass filters for RFI "hash" filtering.

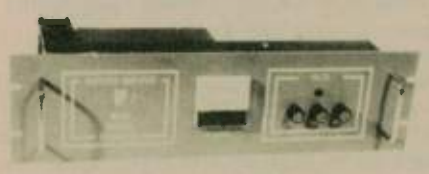
All units are prewired and ready to use. Stop unexplained equipment malfunctions and eliminate static and interference from the power line.

For more information write: Kalglo Electronics Co., Inc., Department: QUAD, 6584 Ruch Rd., East Allen Twsp., Bethlehem, PA 18017. □

Repeater amplifier

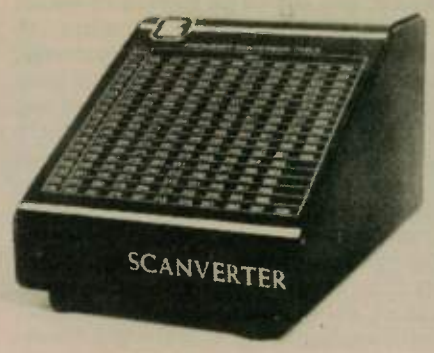
A new line of continuous duty power amplifiers for repeater service has been introduced by Micro Control Specialties. Three different models in the new PA-75 series serve the popular repeater frequencies of 144-148, 220-250 and 420-450 MHz.

Each model in the new PA-75 series provides 75 watts output with 10 to 15 watts of drive from a repeater or base station. The PA-75 also includes a 3-section harmonic filter, AC power supply, front panel fuse access, and metering in a handsome rack mount package.



Dependable continuous duty operation is obtained by using a generous heat sink plus a quiet axial fan which is arranged to cool both amplifier and power supply components. In addition, efficient 28-volt transistors are used for high reliability and long life.

For further information, write to Micro Control Specialties, 23 Elm Park, Groveland, MA 01834; or telephone (617) 372-3442. □



Scanner converter

A converter which will allow complete coverage of the 225-400 MHz military/federal government aircraft band when used with a standard aircraft band scanner has been announced by Grove Enterprises.

The unique SCANVERTER makes it possible for scanner listeners to hear NASA space shuttle radio links to Earth, military air tactical war games, Coast Guard search and rescue missions, FLEETSATCOM military satellites, federal government agencies in flight and more.

An exclusive Grove Enterprises development called "bandstacking" allows the entire 175 MHz-wide UHF aircraft band to be compressed into the 118-136 MHz range tunable on any scanner capable of standard aircraft reception. No tuning or adjustments are necessary with the fully-automatic converter.

Reception for hundreds of miles is possible with the use of an outside antenna. Additional features of SCANVERTER include: high sensitivity, low noise microstripline circuit; all-metal cabinet for superior shielding; frequency conversion chart printed on the cabinet; double balanced mixer for reduced images; 11-pole filter suppresses out-of-band interference; crystal oscillator provides high stability; Zener diode voltage regulation limits drift; powered by convenient 12VDC; a handy list of active nationwide UHF aircraft channels is included. SCANVERTER comes complete with power cord, interconnect cable and full instructions.

SCANVERTER CVR-1, $99.95 (plus $2 shipping) from Grove Enterprises, Brasstown, NC 28902. □

24-hour clock

By popular demand, Benjamin Michael Industries introduces the newest addition to its line of professional quality Military Time format clocks.

The Model 973A features *quartz accuracy* and a *huge* 12-inch dial which allows excellent visibility, even in large rooms. This unit is perfect for hospitals, communications rooms, flight operations offices — anywhere that military time is required for accurate, non-ambiguous, logging or control.

A unique, intelligently designed dial simplifies the clock face and helps eliminate the interpretation errors often associated with 24-hour clocks. Battery operation eliminates the need for an unsightly power cord and, more importantly, provides immunity to power line failures.

Specifications

Format: 24-hour military (973A); 12-hour (972A). **Oscillator:** 32.768 kHz Quartz Crystal. **Accuracy:** 15 sec/month max. error. **Power Source:** A single C cell will operate this instrument for over one year. **Dimensions (nominal): Diameter** — 12 inches; **Depth** — 1¾ inches.

Price is $59.95 plus $3 shipping. Write to Benjamin Michael Industries, 65 E. Palentine Rd., #105, Prospect Heights, IL 60070. □

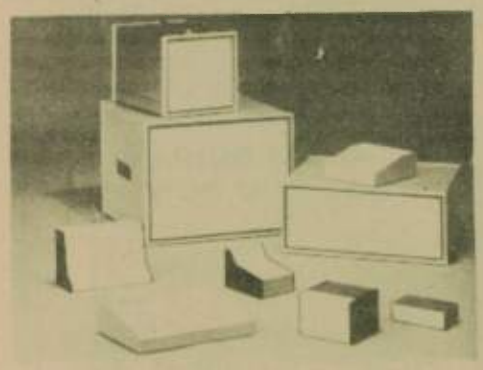
TEN-TEC's expanded enclosure line

TEN-TEC, Inc. has announced a newly expanded enclosure line. The new models include high-style concepts in metal and metal/plastic combinations in larger bench and portable sizes.

The new series "9" and "19" metal cabinets accept panel heights from 3.5 inches up to 17.5 inches and widths of 9.5 inches and 19 inches. Depths are 14.4 inches and 18.4 inches. Thirteen sizes are standard. Construction is welded aluminum. Standard rack panel mounting rails are provided at both front and back with interior racks for guide rails. Recessed side handles are provided in larger cabinets; smaller sizes use collapsible top handles. Styling features extruded aluminum front and rear edge bezels with walnut or black trim inserts. Standard textured finishes include blue, orange, black and dark brown. Optional front panels are offered in a variety of sizes with custom finishes. Special sizes, finishes and panel punching is available.

The new series "S", "H" and "V" use both metal/plastic combinations featuring sloping front panels for keyboard and switch cluster configurations. Series "S" has 3-inch heights and four widths from 6.5 inches to 14 inches. Depths are 9 inches. The all-aluminum cabinets are available in standard textured finishes of blue or black with satin-aluminum or beige panels. Series "H" and "V" have metal chassis and plastic sides in walnut or black textured finish. All three in this group have sloped and upright front panels.

For complete information, write or call for free brochure from TEN-TEC, Inc., Highway 411 East, Sevierville, TN 37862. Ph: 1-800-251-9350. □



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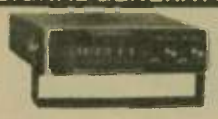

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World Radio History

urge protector

adio Shack, a division of Tandy Corpora-
, offers protection against potentially
naging power line voltage surges. The Arch-
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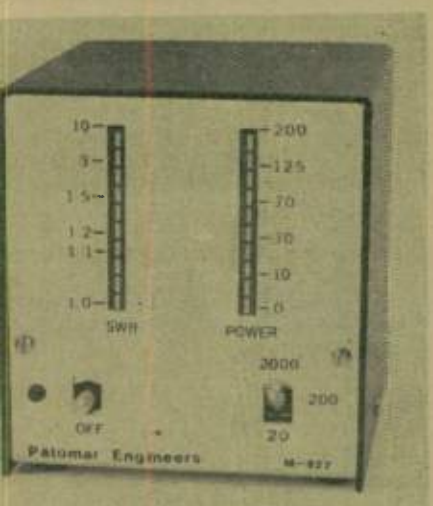
ating dealers.

he Voltage Spike Protector absorbs voltage
nsients associated with power line surges,
does not interrupt the normal current flow.
s helps protect components within com-
ers, television, stereos and other electronic
ipment.

he Voltage Spike Protector plugs into any
, 125V outlet, and the protector equipment
gs into it. □

utomatic SWR eter

alomar Engineers introduces the new
827 SWR Meter. This new meter computes
R automatically and displays it on a light
. The "sensitivity" knob has been elim-
ted, SWR reading is always correct regard-
s of power level, and the light bar follows
nges instantly. A second light bar displays
wer. Unlike the analog panel meter it re-
ces, it follows with the speed of light so you
see all the SSB peaks.



he frequency range of the M-827 SWR
ter is 1-30 MHz. Power ranges are 20, 200
d 2,000 watts. The SWR scale is 1 to 10 with
ogarithmic response that gives much im-
ved resolution where you need it. The M-827
compact 4 by 4 by 5 inches with a brushed
minum control panel, baton switches, and a
ck vinyl cover. The light bars are 2 inches
g with a bright red display.

he M-827 SWR Meter sells for $97.50. For
ther information, write to Palomar Engi-
rs, 1924-F W. Mission Rd., Escondido CA
025. □

300W antenna tuner

Palomar Engineers introduces the new PT-407 Antenna Tuner. The PT-407 is a general purpose tuner for 1.8-30 MHz to match antennas fed with coaxial or open wire lines, single wire or mobile antennas. The 300-watt power rating makes it just right for most transceivers. The PT-407 is an efficient tuner with a large air-wound coil, a large balun for open wire feed, and with ceramic insulation throughout. It is housed in an 8-by-4-by-7-inch aluminum cabinet with brushed aluminum control panel and black vinyl cover. All controls are on the

front panel. Coaxial connectors are SO-239. Porcelain feedthru insulators are used for balanced line and single wire inputs.

The PT-407 Antenna Tuner sells for $149.95. For further information write to Palomar Engineers, 1924-F W. Mission Rd., Escondido, CA 92025. □

High current filter choke series

A new series of high current filter chokes in 24 values has been introduced by the J.W. Miller Division of Bell Industries in Compton, California.

Utilizing high saturation flux density rods, the chokes are rated from 5uH/23 amps to 250uH/4 amps.

The 5500 series chokes are ideal for use in filtering, energy storage and switching power supply applications.

In addition, J.W. Miller Division produces an extensive line of interference filters and inductors.

Additional information may be obtained from Joe Johnson, J.W. Miller Division, Bell Industries, 19070 Reyes Avenue, Compton, CA 90221; (213) 537-5200. □

Georgia

The 54th annual Atlanta Hamfest and Southeastern Division ARRL Convention will fill the Downtown Marriott Hotel 12-13 June. Second in size only to the hamfest in Dayton, Ohio, the gathering will feature 35,000 square feet of exhibits in air-conditioned comfort with an even larger area of covered flea market items just a few feet away. Thousands of new and used communications items will be available along with the best in technical knowledge and state-of-the-art information. Prizes will be given almost continuously both days.

Almost two dozen forums will examine and explain the latest information on Amateur Radio, microcomputers, TVROs and many other interesting subjects.

The FCC examiners will be on hand to provide testing opportunities to the hopeful among you.

People seeking overnight reservations should contact the Marriott and other motel/hotel facilities directly. Food will be available on-site and nearby.

Save time and money by advance registration of $5 plus $1 for spouse and children. The two-day ticket will cost $6 at the door plus $1 for spouse and children. Flea market spaces are $10 a day with no in-and-outs permitted from the flea market.

Many entertaining opportunities for the entire family will be available in and around the hamfest. Come and enjoy it all. For full information, write The Atlanta Radio Club, P.O. Box 27553, Atlanta, GA 30327. □

Indiana

The Lake County (Indiana) Amateur Radio Club, will hold its 10th annual "Dad's Day" Hamfest on 20 June 1982 at the Lake County fairgrounds, Industrial Arts building, Crown Point, Indiana. Hamfest will be held indoors.

Prizes. Tickets are $2.50; mail check to: Lake County ARC, Walley Kozol, KA9FDC, 624 N. Rensselear St., Griffith, IN 46319.

Talk-in on 147.84/24 or 52. □

Maine

The Yankee Radio Club, Inc. will hold its 3rd annual Yankee Hamfest '82 on Saturday, 19 June, from 9:00 a.m. to 5:00 p.m. at the Oxford

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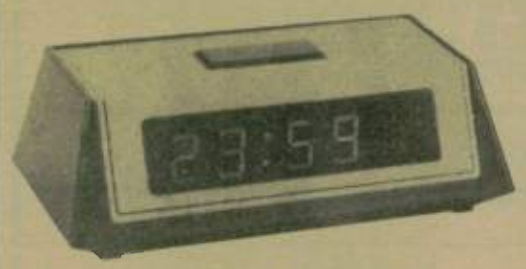

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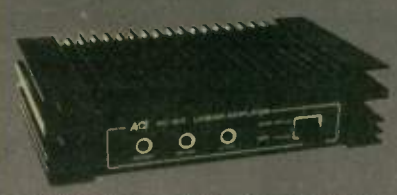

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World Radio History

County Fairgrounds in the town of Oxford, Maine.

There will be a large flea market, displays, manufacturers' booths, women's activities, swap tables, a CW contest and prizes. A Ham of the Year Award will be given away. Good food will also be available.

Admission at the gate will be $1.50 and includes prizes. Camper hookups will be available for Friday and Saturday nights at $3 per night.

Talk-in by Don Dean, W1BYK will be on 146.28/88 and on 146.52. □

Michigan

The annual Monroe County Radio Communications Hamfest is 13 June 1982 from 8:00 a.m. to 3:00 p.m. at the Monroe Community College on Raisinville Rd., Monroe. Tickets are $2 at the gate; $1.50 in advance. XYLs and children free. Free parking. Contests, auctions and displays. Plenty of table space.

Talk-in on 146.13/73 and 52.

Contact Fred Lux, WD8ITZ for information at P.O. Box 982, Monroe, MI 48161 or call 1-313-243-1088 Hot Line. □

Michigan

The Straits Area Amateur Radio Club will hold its annual hamfest on 17 July 1982 at the Harbor Springs High School in Harbor Springs, Michigan. Come visit beautiful Harbor Springs in the northern lower peninsula on Lake Michigan.

Doors will be open at 8:00 a.m. for persons who wish to set up a table space and for others at 9:00 a.m. Donations of $2 will be accepted at the door. There will be one main door prize and smaller prizes hourly. Lunch will be served from 11:00 to 1:00, and refreshments will be available during the day.

For those of you who have self-contained RVs, the school parking lot is free to use for an overnight stay. Sorry, we do not have any hookups, but many campgrounds in the area do.

Attention you dealers — we have a lot of room, so drop us a line and we will reserve a table for you. The YL will love the shops in Harbor Springs and the gaslight district of Petoskey. On Sunday you could visit quaint Mackinaw Island. So come — spend the w end and enjoy the relaxed climate along shores of Lake Michigan.

Talk-in on .52/.52 and 146.07/.67.

For information on lodging, contact: Ha Springs Chamber of Commerce, 450 Bay, bor Springs, MI 49740 (616-526-2761); Petoskey Chamber of Commerce, 401 E. chell, Petoskey, MI 49770 (616-347-4150). more details, contact: Mr. Bernie Slot KB8RE, 630 Ann St., Harbor Springs, 49740 (616-526-5614).

Montana

The Southeastern Montana Amateur R Club (SEMARC) announces the 27th an Eastern Montana hamfest to be held Satur and Sunday, 19-20 June at Miles City, M tana. Free and commercial overnight par and camping facilities, flea market, used eq ment auction, door prizes, potluck picnic games for the kids on Sunday.

Talk-in on 28-88. For more info, con James Elliot, WB7WBA or Paul Armstr K7HWK at P.O. Box 1030, Miles City, 59301.

New York

The Staten Island Amateur Radio Asso tion will hold its flea market on 12 June f 9:00 a.m. to 3:00 p.m. (from 7:00 a.m. sellers) at All Saints Episcopal Church, St Island, New York. (Take Interstate 278 t Victory Blvd. exit, proceed east on Vic Blvd. for one-half mile to Crystal Ave., turn on Crystal Ave.)

Talk-in on 146.52 and 146.28/.88.

There is no admission charge for buy Sellers must pay $3 for each selling space $1 if they use electricity. Sellers must pro their own tables. Refreshments and rest ro will be available. There will be a raffle at p.m.

If further information is needed, send SASE to: George Rice Jr., WA2AMJ, Jewett Ave., Staten Island, NY 10302.

New York

The Hall of Science Amateur Radio Club nual indoor/outdoor, rain or shine hamfest be held Sunday, 13 June, 9:00 a.m. to 4:00 at Municipal Parking Lot, 80-25 126th St (one block off Queens Blvd.) Kew Gard Queens, New York City. Sellers: donation buyers $2. XYLs and kids free. Walk/ta frequency 145.520. For info, contact Doyle, KA2DTB, (212) 738-8887.

New York

The Genesee Radio Amateurs, Inc. will sent the 2nd annual ARRL-approved Bat Hamfest at Alexander Firemen's Grou Route 98, Alexander, New York (nine m south of Batavia) on Sunday, 11 July from a.m. to 5:00 p.m.

Registration is $2 advance, $3 at gate flea market $1. There will be many priz large exhibit area, OM and YL programs, tests, plenty of food, overnight camping, anchor auction at 3:00 p.m. and lots of fu all.

Talk-in to W2RCX on 4.71/5.31 and simplex.

For advance tickets, make checks payab Batavia Hamfest, c/o GRAM, Inc., Box Batavia, NY 14020.

North Dakota

The Goose River Radio Club will hold t annual North Dakota ham picnic in Is Park, Mayville on Sunday, 6 June. As u many amateurs and their families drive i Saturday with their motor homes and t and get set for the Saturday night festivit

Sunday registration will start at 9:00 a.m usual. There will be a flea market and auc beginning at 11:00 a.m. Pioneer Daughters be serving refreshments all day. Prizes wi awarded during the day, including a H antenna tuner. Arrangements have been m to hold festivities inside in case of rain.

For more information, write to H.B. Bur W0OEL, 422-4th Ave., NW, Mayville, 58257.

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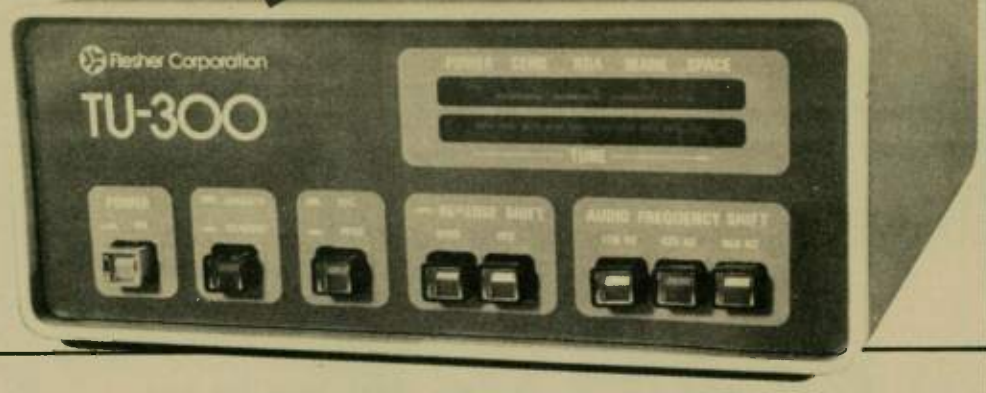

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World Radio History

Ohio

The 15th Annual Goodyear Amateur Radio ub Hamfest will be held Sunday 13 June, om 10:00 a.m. to 5:00 p.m. at Goodyear ingfoot Lake Park, near SR224 and 43 east Akron, Ohio.

Flea market area sellers $1 per parking space tside; dealers inside the shelter, $5 per table. dvance reservations suggested.

Picnic tables available plus concession stand. ourly and grand prize drawings. Top prize S-830S. Free parking. Talk-in and check-in equency 146.04/64. Mobile check-in prize. amily admission $2.50 advance sale, $3 at the te. Ladies prizes too.

For further information, advance sale tickets d shelter house table reservations, please ntact Don Rodgers, WA8SXJ, 161 S. awkins Ave., Akron, OH 44313. □

Oregon

The Hermiston Amateur Radio Club will erate KC7LK from 1600Z on 10 July until 00Z, 11 July to celebrate the "Watermelon pital of the World" 's 75th anniversary. Fre- encies: phone 80-10 meter General Class por- ons; Novice CW portions; 147.03 on 2 meters. Special QSL for SASE to: Lloyd Umphfres, O. Box 604, Stanfield, OR 97875. □

Oregon

The Lane County Amateur Radio Associa- on announces the Lane County Ham Fair, to held 17-18 July 1982 at the Oregon National uard Armory, 2515 Centennial, Eugene, regon.

Tickets are $4; tables $5. Buy tickets before 1 uly and receive one extra drawing ticket free. rand prize is an ICOM 730 low-band mobile g. (You need not be present to win.)

Doors open at 8:00 a.m. Saturday and Sun- ay. Free parking for RVs, no hookups. Food ill be served at an all-day snack bar and a aturday potluck supper. Other features in- ude a 2-meter bunny hunt, computer demos, chnical seminars, women's activities and a ildren's corner.

Talk-in on .52/.52 simplex; 146.28/88, 7.86/26, 3.910 MHz.

Write to Eunice Brown, WA7MOK, 2456 orral Ct., Springfield, OR 97477; (503) 47-7939. □

Pennsylvania

The Harrisburg Annual Firecracker Hamfest will be held Sunday, 4 July. It will be sponsored by the Harrisburg Radio Amateur Club. Location will be the Shellsville VFW picnic grounds, Exit #27, one mile.

Talk-in on 16/76 or simplex 52/52.

Shade trees with pavilion. Parking for 1,000 cars. Tables available or bring your own. Food will be available. XYLs $3, children free. Tailgating $1.50. Door prizes and grand prize drawings.

For additional details, contact Dave Dormer Jr., KA3HZW, 131 Livingston St., Harrisburg, PA 17113 or phone 717-939-4957. □

Pennsylvania

The Nittany Amateur Radio Club Ham Festival is scheduled for 10 July, from 8:00 a.m. to 4:00 p.m., at the HRB-Singer picnic grounds, Science Park Rd. (between U.S. 322 West and Rte. 26 East), State College, Pennsylvania.

Talk-in on 146.16/.76, 146.25/85, and 146.52.

Features include flea market, technical sessions, numerous prizes/contests, refreshments. Tickets $3; tailgating/tables $5. Information from Richard L. Sine, KB3WN, 1600 E. Branch Rd., State College, PA 16801. □

South Dakota

The Annual South Dakota Hamfest will be sponsored by the Black Hills Amateur Radio Club, 10-11 July at the Surbeck Center, South Dakota School of Mines & Technology, Rapid City, South Dakota.

Pre-registration will be $7, $8 at the door. There will be a prize drawing for pre-registrants. Free tables for flea market, forums, contests, picnic, and prizes.

For further info write Black Hills ARC, c/o Rudy Mooney, WB0PWA, 4822 Capitol, Rapid City, SD 57701. W0BLK call-in 34/94. □

Wisconsin

"Gemutlichkeit." That's Milwaukee's special way of saying, "Welcome and enjoy our hospitality," and that is what we say as we invite all YL-ISSBers to attend its 9-land convention. It will be held in Milwaukee, 8-11 July 1982, at the Ramada Inn (6th and Michigan Avenue).

Milwaukee's Summerfest will be held 25 June through 5 July. A grand show of fireworks will climax the 'fest on 5 July. Several tours, trips and recreational activities may be taken advantage of between 5 July and 8 July. These include brewery tours, a barbecue, shopping trips, a Milwaukee Brewers baseball game (day), golf and fishing. An $8 buffet dinner will be held 8 July, 6:30 to 10:45 p.m., but is limited to the first 110 registrants. The Auxiliary ladies boutique will be in operation Friday and Saturday. Those who cannot attend and wish to contribute, may do so by sending donations to KB9OC (see address below). A raffle will be held for all articles left.

A major door prize — an ICOM IC-2AT donated by Amateur Electronic Supply and 9-Land Convention — will be awarded. Each registrant will be given one ticket. Additional tickets may be had at $1 each or 12 for $10. (Those not attending may also purchase 12 tickets for $10, to be eligible for all except the major door prize.)

All monies will be applied to convention expenses; surplus will be used to sponsor new deserving DX stations and to renew active DX-ers whose sponsorship has been dropped. Any other surplus will go into the general fund of YL-ISSB.

Friday's program will be a DX Roundup with DX members and those who have operated DX. Anyone who wishes to take part in Thursday and Friday nights' entertainment programs should contact KB9OC. There will be a Saturday evening banquet dinner and a Sunday morning buffet.

Convention rates are $36 for single, $42 for double occupancy. Additions are $6 per person with children under 18 free. Suites are also available.

If you wish to participate in pre-convention activities, send a business-size SASE to: Sus Musashi, KB9OC, P.O. Box 18123, Milwaukee, WI 53218. All pre-convention activities will be from KB9OC's QTH: 4921 North 58th St., Milwaukee, WI 53218. Phone (414) 466-4350 or (414) 462-1030. KB9OC will also supply information on local camping facilities — Wisconsin State Fair RV Park and Yogi Bear Jellystone Camp Resort. Permission may be obtained for fully contained RVs from the hotel. □

Summer SMIRK Party

The 6-meter International Radio Club will sponsor its 8th annual Summer SMIRK Party, 18-20 June 1982. Times of operation will be: 1900 CDT (0000 UTC) Friday, 18 June to 1900 CDT (2400 UTC) Sunday, 20 June.

Operation: Exchange SMIRK number and ARRL Section or foreign state, province, prefecture or country. Under SMIRK contest rules, *count ARRL Sections in the 48 United States only. KH6 and KL7 count as countries. Washington, D.C. counts as a Section. Canadians count as provinces. All others count as states, provinces, prefectures or countries.* No crossband contacts, multi-operators or partial contacts. Check logs or dupe sheets not required.

Scoring: Count 2 points for each SMIRK contact, 1 point for non-SMIRK. Total SMIRK plus total non-SMIRK multiplied by total number of ARRL Sections, foreign states, provinces, prefectures or countries worked = Claimed Score.

Awards: Trophies for high score SMIRK in two divisions: U.S./Canada and foreign. Certificates for high score in each ARRL Section and foreign state, province, prefecture or country.

Entries: Entries, to be eligible, must be submitted on the Fall 1981 edition of the Official SMIRK Log. Send log requests (SASE) and entries (postmarked not later than 11 July 1982) to: Spencer F. Ritchie, KA2MHT/5, 5122 Sagamore, San Antonio, TX 78242. □

World Wide South America CW Contest

Hundreds of CW operators of most South American countries will be on all HF bands during 24 hours on 12-13 June 1982. They will welcome amateurs of other continents who wish to meet them for the first "WWSA — World Wide South America CW Contest."

It will be an FB opportunity for "Awards Hunters" to contact several "difficult" countries and also to obtain many awards granted by South American CW groups and Amateur Radio societies.

WWSA is sponsored by a Brazilian Amateur Radio magazine (**Electronica Popular**); it's supervised by an outstanding Argentine CW Group (Grupo Argentino de CW — GACW) and the oldest Brazilian CW Group (Pica-Pau Carioca — PPC).

The contest is held annually, the second weekend of June, from 1500 UTC Saturday to 1500 UTC Sunday. Bands to be operated are 3.5-28 MHz, CW only. Crossband contacts not valid.

Call: CQ SA TEST.

Exchange: RST/QSO number starting from 001.

Points: Each QSO counts 2 points. A station may be worked only once on each band. Same country contacts are not valid. Contacts between South American stations count only as multipliers, not as QSO points.

Multipliers: South American stations — the different countries worked in each band (DXCC list). Other stations — the different South American prefixes worked in each band.

Score: The final score is the sum of QSO points multiplied by the sum of multipliers.

Class: Single operator/single band or all bands; multi-operator single transmitter (multi-band only).

Certificates will be awarded to the three top scoring stations in each class and to the top scorer in each country. A separate log for each worked band must be sent no later than 31 July to WWSA Manager, P.O. Box 18003, 20772 Rio de Janeiro, RJ, BRAZIL. □

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- MIDLAND - 13-500,13-505,13-520
- REGENCY - HRT2,HR2,2A,2B,212,312 (No Sub Band
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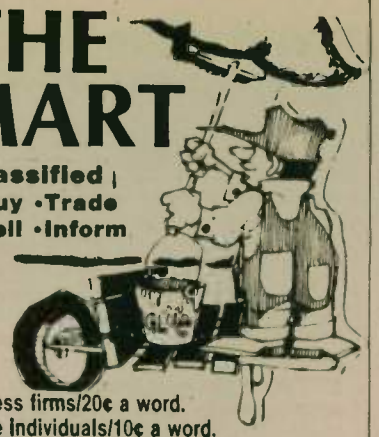

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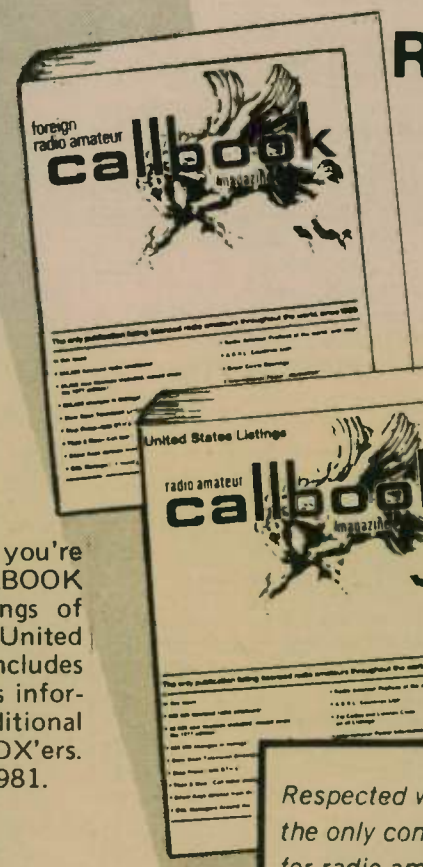

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