Worldradio January 1991

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Who needs a computer!

HARRY V. NOBLE, N8CYS

I'm a mechanical engineer. I design hardware and make wheels turn. I don't need a computer; they're toys on which to play games. Or, so I thought.

Knowing this, a friend of mine, WB8TOG, gave me a computer that his daughters had grown tired of. It was a Commodore 64 (Plus/4 version with built-in word processing software) that they had used to play games and make music. I politely said thanks and took the gadget home.

So, maybe I should become computer literate, I thought. For many years I had been looking over people's shoulders while they ran programs, and maybe some knowledge had rubbed off on me.

After making up a cable with RCA plugs, I connected the "dumb terminal" to an unused B&W TV set (borrowed from "Mom") and turned it on. It worked! The next few nights were devoted to printing my name endlessly on the screen and making music. Without a printer or data saving device there was little more I could do.

About this time, the Cincinnati area Amateurs had their annual hamfest at Stricker's Grove. I attended, along with several members of the Bellbrook Amateur Radio Club. Two of them promptly found a matching printer for me, in almost new condition, that even had a serial port cable. (By this time, I had discovered that most new printers were for IBM compatible MS-DOS equipment and connected to "parallel" ports.) I bought the printer from a gentleman who assured me that "it worked the last time I tried it."

Lo and behold, the printer did work! After putting in a new Radio Shack ribbon, one could even read the characters. So, I began to type letters with the word processing software and played around with the spreadsheet function too. Really, it was nice to be able to correct a mistake (typographical error) without resorting to eraser or white paint; and I could make

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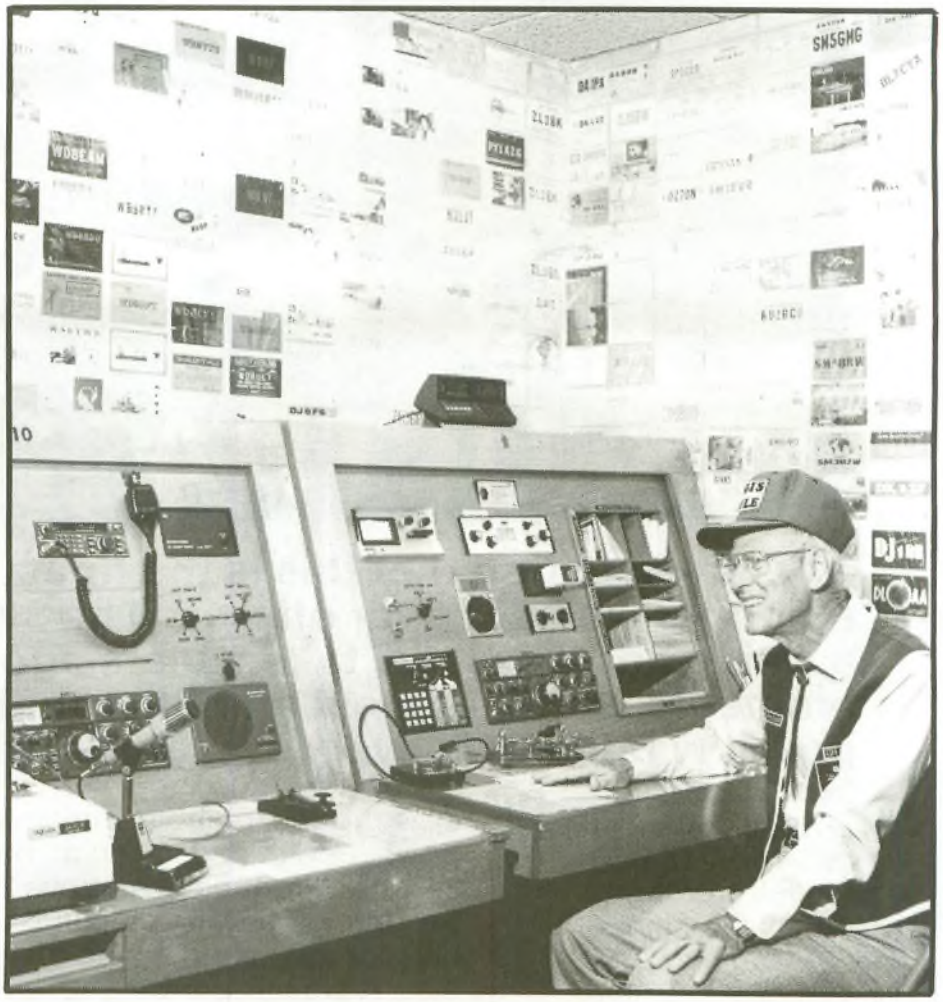

Regis Kramer, W4ILE, founder of the Clover Leaf Amateur Radio Club and station WD4IIO, sits in front of the equipment that was wholly purchased from flea market-earned income.

Florida's wonder station

JOHN F. BARROWS, W1HCR

At the invitation of Bill Lockhart, KB4WUK, Adda, WA1TEL, and I had the chance to visit a most unusual club station in Brooksville, FL.

The station, WD4IIO, is located at the Clover Leaf Farms Mobile Home and RV Park, from which the club derives its name—Clover Leaf Amateur Radio Club, or CLARC. It has been said that this organization may be the only ARRL affiliated club in the United States in which the entire membership is enrolled in the American Radio Relay League. But then again, ARRL membership is a mandate for joining the club.

CLARC has 30 members, each having a key to the station. Therefore, each assumes responsibility for station security and equipment protection.

(please turn to page 6)

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MARS service for Army troops

The Army's Military Affiliate Radio System (MARS) is saving soldiers and their families an estimated $5.2 million per year in what they might otherwise be spending on telegrams and long distance phone calls, says Robert Sutton, Chief of Army MARS.

Sutton, whose office is located at the Headquarters of the U.S. Army Information Systems Command, says the system is also saving the Army an estimated $31.5 million dollars annually. This figure consists of personnel and equipment costs the Army would have to pay if these services were not being donated by volunteer radio operators. He noted that these statistics were compiled prior to Desert Shield and could go much higher as a result of the Middle East crisis.

The MARS network consists of 233 military and 3,800 civilian high frequency radio stations which are scattered throughout the world.

The civilian stations, Sutton explained, are equipped and manned by volunteer MARS affiliates — Amateur Radio operators — who donate their time and equipment to the program. There are presently 33 Army MARS stations operating in Saudi Arabia. From any one of these, a soldier can talk to a friend or family member back home. They provide a valuable service because phone booths are not prolific in the desert. The MARS Station Chief at Fort Huachuca, Jim Pugh, explained how it works.

"The overseas MARS station gets in radio contact with an operator in the United States," Pugh said. "Then the US operator makes a collect call to the

(please turn to page 10)

Army MARS Chief, Bob Sutton, speaks with an overseas MARS operator while setting up a phone patch. MARSgrams are typed into the computer on the console in front of him and can be viewed on the monitor before being transmitted.

Crest Hill credit

We would like to acknowledge Jean Tyrell, KA9VWX, of Joliet, Illinois for her contribution to our November cover story, *The Crest Hill lawnmower tornado,* submitted by Frank Rasmusson, KA9VPH. Frank's submission contained material in part and, in places, fully extracted from Jean's article, *Radio Amateurs serve crucial link,* which she wrote for the Herald-News, Joliet, IL. □

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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 to this avocation.

You readers are participants — an alliance of active radio amateurs concerned with reality, using radio as a communications tool to develop the skill, quality and full potential of Amateur Radio.

We emphasize the positive aspects of this great activity, and desire your contributions dealing with dramatic, personal and humanitarian uses of Amateur Radio.

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PUBLISHER'S MICROPHONE

Frank Trzesniowski, N1HTO, says, "Radio people are a wonderful kind of people."

We now recognize some especially wonderful people, those who gave a special boost to this magazine. The latest Lifetime Subscribers are: James Hopkins, K1VFM, Coventry, RI; Howard Friedman, WA2AFD, Schenectady, NY; Henry Mackey, KB9CQO, Columbia City, IN; Joseph Rossmiller, AG9Y, Macomb, IL; Jose Vazquez, N6VUY, Los Angeles, CA; Charles Sahutske, W6BIV, Sun Valley, CA; James Sohn, KF6NY, El Cerrito, CA; Richard Yeager, KG6GE, Sacramento, CA; David Martens, NL7SB, Bethel, AK; and apologies to Robert Hughes, N6SPY, whom our gremlins prevented from being listed at his proper time.

•

I found the following in the newsletter of the Sun City (Texas) ARC. It should be printed in as many bulletins as possible. By Mark Forbes, KC9C, it is entitled "Enough Doomsday Garbage!"

I've read enough garbage about the coming end of Amateur Radio, and enough "information" supporting such conclusions which have no semblance of fact. Here are the facts—you can look them up:

1) Amateur Radio is GROWING . . . the number of hams has roughly doubled in the last 20 years (source: FCC data and the Callbook). In fact, the rate of growth is about *twice* that of the general population (source: *ibid.*, and facts on file).

2) We've acquired several new bands in the last 10 years, particularly 12, 17 and 30 Meters.

3) We've acquired more new privileges in the last 10 years than in any decade of the service, specifically space and packet related, plus HF for Technicians and VHF/UHF for Novices.

4) We've acquired more new emissions in the last 10 years than in any decade of the service, specially ASCII, packet and AMTOR.

5) It is quicker and easier to get tested and licensed than ever before. No longer do you have to visit your local FCC field office on the one weekday that they give Amateur exams. VE exams are given virtually every weekend of the year within easy traveling distance for most hams, and many evening sessions are scheduled as well.

6) No longer do you have to wait 4-12 weeks after passing an exam (except the first one) to begin using your new, hard-earned privileges. For the first time instant upgrading is possible.

Yes, yes we have lost some frequencies. It's lamentable, but it sure isn't new. It's been going on since 1917, and rearrangement of the spectrum will continue as long as there's human life on earth. We have more frequencies than any time in recent history.

Let's fight to keep what we have. And, yes let's work to get more. But all this moaning and crying and tossing about insupportable conclusions based on fabricated data does no one any good. If you are that upset with your hobby then please find something else to occupy your spare time.

•

The November issue of *QST* featured Field Day on the cover with the usual coverage, starting on page 75. Unfortunately, only about 10 percent of the active amateurs avail themselves of the "Great Day," as one club calls it. Ninety percent of the actives miss this exciting event. Looking through various club bulletins, I see how participating Amateurs describe it:

Offers a lot of variety to all . . . Lots of fun and comradeship . . . The radio, social and eating was as good as anyone could ask for . . . All who came to Field Day know how much fun we had . . . This type of activity shows that we are ready and willing to set up a system on the spur of the moment in any location if the need arises for emergency communications . . . Extravaganza . . . Our media coverage was on TV and radio . . . Looking forward to next year . . . What a great time we had on Field Day . . . We sure had a lot of fun! . . . An overwhelming success . . . FD has come and gone and with it comes the anticipation of next year . . . It was a GREAT Field Day, and if you missed it, found other projects to occupy your time, OH WELL! You REALLY missed it . . . What an experience! . . . I had a ball . . . Try it, you might like it. I sure did! . . . A memorable event . . . I can tell you with great pride that our emergency preparedness machine is well oiled, in place and ready, if need be, within a few hours . . . A great experience . . . Field Day is a real kick!!! . . . I hope you all had as much fun as we did . . . The operating and socializing was enjoyed by all . . . Truly outstanding . . . In one word, GREAT!!!

—Armond, N6WR

Happy New Year!

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- **CAT System Control:** Provides for external control of VFO frequency, mode and operator's personal computer.
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- **Tone Encoding Microphone:** Choice of standard, or optional high performance DTMF tone encoding microphones.
- **Digital Voice System (DVS-1):** Optional system which allows local and remote digital voice recording and playback.

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Frequency Range: RX: 140–174 MHz, TX: 144–148 MHz (modifiable for MARS and CAP) FT-212RH; 430–450 MHz on RX (FT-712RH)

Power Output: 45 Watts (FT-212RH); 35 Watts (FT-712RH)

Case Size: 5.5 (W) x 1.6 (H) x 6.3 (D) in.

Weight (Approx.): 2.8 lbs.

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(Shown Actual Size)

Florida's wonder station

(continued from page 1)

And what an array of equipment it is! The station is outfitted with two Kenwood TS-830 transceivers, one RTTY station, one Morsematic CW electronic keyer, one packet station permanently installed and a second packet station presently being installed in a portable cabinet for outside activities.

VE1AII/N4LYT operates one of the two Kenwood TS-830S transceivers.

In addition, the station has three 2M units in fixed station configuration and two 2M units for portable special event or emergency work. The club room is well-stocked with test equipment.

The station's antenna systems include a 55 ft. E-Z-way crank-up, tilt-over tower with a 4-element triband beam, two inverted V antennas for packet traffic on 40 and 80M and an inverted V for 75 phone operation.

W4ILE (at the keyboard) and WD4FNX checks into packet bulletin board station K4OZS on 145.01.

One wonders who the club members are who are able to maintain such a well-equipped, superior station when there are no dues for participating in CLARC.

The answer is simple: They are avid fundraisers. Throughout the year, three or four flea markets are conducted at the park or at other locations. And, in addition to its wealth of radio equipment, this tax-free club maintains a $2,000 reserve fund in the bank.

CLARC was founded in 1977 by Regis Kramer, W4ILE, an electrical engineer. The club originally had three members.

CLARC members offer radiogram service throughout the year. Ongoing classes are offered for potential Novices and license upgrading, plus instructions in packet and RTTY operations. □

Women in wireless

OLIVE J. ROCKNER, VE7ERA

As a former seagoing brasspounder, it saddened me to learn that CW is to be phased out commercially by 1991. No longer the friendly chatter of Morse around the world, as ships on vast oceans reach out to other ships or to coast stations on distant shores.

I would like to acquaint the reader with a relatively little known fact — mention wireless operator to the average person and an image comes to mind of a lone man hunched over a key. How many are aware of the part women have played in the annals of seagoing sparks, Canadian women in particular?

Records indicate that the first young woman to serve at sea as a wireless operator was American, a Miss Graynella Packer, in 1910. Miss Packer only remained a few months, but by the end of the '30s, at least 13 other young ladies had operated on vessels along the Atlantic and Pacific Coasts and on the Great Lakes.

In 1940 the Merchant Marine began recruiting operators in Canada. Twenty-year-old Fern Blodgett had dreamed of some day becoming a sailor. Working days as a steno, she attended wireless night classes, gaining her commercial license 18 months later, only to discover that there were no positions open to women. A few weeks later, however, Fern's former principal phoned and asked if she was still

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Who needs a computer!

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duplicates without a copy machine. After typing 80 or so letters, I branched out to technical proposals in an attempt to do some consulting work.

About this time, I came across a dual "floppy disc" drive in a newspaper ad. The second owner demonstrated the "unknown brand" device and showed me the owner's manual with its cheap mimeographed pages. The price was right and I rapidly became the third owner.

Connecting the disc drive between printer and computer, I found it accessible from both terminal and software commands. Now I could even save addresses typed laboriously into the file manager. I typed in resumes and form letters and saved one of the proposals that had course outlines for a training seminar.

Know what? I sold the training seminar! Maybe the neatly arranged, computer generated pages helped to do this. Maybe "computers" are, after all, of some value to mankind.

Hey! Maybe I can use my computer with Amateur Radio. Apparently, many Amateurs do. *QST* ads list Commodore component parts and the classifieds abound with software deals. No! Don't buy programs written for someone else when I've got a way to write and save information.

But wait. I've never written a program before. I don't really know how. Back to the owner's manual and read, read, read.

Some of the material even began to make sense. After all, aren't computers based upon mathematical logic; and engineers are trained in math. I decided that I needed a logging program (doesn't everyone?) in order to justify continuing my studies. So, one morning, I sat down and wrote a logging program. Two days later, I got up.

First, I decided what *information* needed to be recorded. Station contacted, of course, plus signal exchanges and time were a must. My call could be added later, as could band frequency, if working contest style.

Then, I needed a way to permanently save the data. Problem number one was how do I get time automatically in a running program. Next was how do I ask myself questions and input data.

The first try actually worked; sort of! Well, I kept my two fingers to the keyboard, one eye on the books and one on the screen. I learned to pause, input strings, loop, increment, branch, read values and output to the printer. Getting the thing to stop without shutting down was a major hurdle. My last upgrade was easier!

I was successful. Maybe it's not fancy or efficient in commands, but it works and does what I set out to accomplish. Now I've got to share my effort. I know that a lot of Amateurs have Commodore equipment and, perhaps, they can use this "Novice level" routine.

I guess computers are OK. □

DARC members Bob Sebonia, AK9Y, and Jack Carr, NV9S, operating under simulated emergency conditions at the 1990 Field Day.

DARC at Field Day 1990

Forty-six members and guests of the DuPage Amateur Radio Club (DARC) participated in the 1990 Field Day activities on June 23 and 24. Located at the Green Valley Forest Preserve. Thunder Bird Youth Camp in Naperville, the DARC contacted more than 2000 Amateur Radio stations during the 24-hour period.

For further information about the DARC's community activities, contact Gary P. Dettl, 8082 S. Garfield Ave., Burr Ridge, IL; 708/986-8082. □

The FCC has released the 150 page text of its second Notice of Inquiry (NOI) in General Docket 89-554. It opened this proceeding late last year to provide a forum for public input on the issues likely to arise at the World Administrative Radio Conference (WARC), scheduled to open in Spain on Feb. 3, 1992. The agenda for this conference is limited in scope, but it could still affect a number of important frequency allocations to the Amateur Service as high-frequency broadcasters and a number of terrestrial and satellite services seek new allocations. The second NOI includes specific draft recommendations for proposals to be made by the United States at WARC-92. No new FCC rules will result directly from this proceeding; rather, it is a part of the process by which the FCC is determining how the future needs of users (other than the Federal government) of radio spectrum in the United States can best be represented at the conference. The FCC is also receiving input from an industry advisory committee on which the ARRL is represented. The needs of non-government interests as defined through this process must be blended with those of the Federal government as defined through a parallel, non-public process being conducted by the National Telecommunications and Information Administration (NTIA). The third player in the development of US proposals for WARC-92 is the Department of State, which will forward the coordinated proposals to Geneva around June 1991 so that they can be translated and distributed to the administrations of the member countries of the International Telecommunication Union (ITU) for study prior to the conference. FCC and NTIA already have coordinated their recommendations on the majority of WARC-92 issues. (*The ARRL Letter,* 10/5/90)

The FCC appears to have taken some interesting precautions when it went after International Amateur Radio Network manager Glen Baxter, K1MAN, and charged him with broadcasting. The charge says that his bulletin transmissions of August 30 and September 4 violated sections 97.101(d) and 97.113(c) of the Amateur rules. Baxter countered by insisting that his transmissions were protected under the same authority that the ARRL's W1AW operates under, but it now appears that this is not the case. The text of the citation does not cite the entire series of K1MAN bulletins. Instead, it goes after the IARN leader for aiming parts of his bulletins at non-Amateurs. The Commission says that portions of some of the broadcasts were beamed specifically to SWLs. The FCC also says that of some of the prohibited practices it cited Baxter for include pitches for Florida-based *Radioscan Magazine* and a so-called "Amateur Radio Peace Corps." In other words, the FCC is not going to shut down the IARN bulletin service, but is very clearly warning K1MAN to watch his audience demographics and his bulletin content. The FCC intercepted Baxter saying that he made 107 of his 45-minute single-sideband broadcasts a week! (*Westlink Report,* 10/26/90); (*W5YI Report,* 10/15/90)

FCC's Kingsville, Texas monitoring station has sent a notice of violation to Lloyd S. Montcalm, WA2EXQ, for an uninterrupted eight minutes of calling CQ on 14.300 kHz while acting as control for a net. (*Westlink Report,* 10/26/90)

The Wall Street Journal reports that the FCC, seeking to encourage business radio users to find vacant radio channels, has proposed rewarding those who find abandoned or unused spectra by issuing licenses to use them. The proposal was part of a wider effort to insure efficient use of Private Land Mobile Service (PLMS) channels. It is not known yet how far the FCC proposal will reach. However, should the Commission make this an across-the-board policy change, then every service

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 November 1, 1990.

For more information about the call sign assignment in the Amateur Radio Service, see Section 97.17(f) of the FCC Rules, or write to the FCC, Consumer Assistance Branch, Gettysburg, PA 17326.

Radio District	Group A Am. Extra	Group B Advanced	Group C Tech./Gen.	Group D Novice
0	AA0CL	KF0NO	N0MOR	KB0HRW
1	WM1O	KC1XQ	N1IEE	KA1WNM
2	AA2CA	KE2XQ	N2LJF	KB2LKU
3	WF3X	KD3UM	N3IQS	KA3WZJ
4	AC4AA	KN4RJ		KC4TVP
5	AA5VP	KI5KK	N5RPC	KB5OBH
6	AA6YY	KK6SB		KC6OXZ
7	AA7GR	KG7KE	N7PUG	KB7LWO
8	AA8CL	KF8KC	N8NAN	KB8KVW
9	WW9W	KE9ZT	N9KGT	KB9FQP
North Mariana Is.	AH0I	AH0AG	KH0AM	WH0AAO
Guam	KH2O	AH2CI	KH2EV	WH2AMU
Johnston Is.	AH3D	AH3AD	KH3AD	WH3AAG
Midway Is.		AH4AA	KH4AE	WH4AAH
Hawaii		AH6KR	NH6XT	WH6CJG
Kure Is.			KH7AA	
American Samoa	AH8D	AH8AE	KH8AI	WH8AAZ
Wake Wilkes Peale	AH9A	AH9AD	KH9AE	WH9AAH
Alaska		AL7MO	NL7VH	WL7BZN
Virgin Is.	NP2H	KP2BU	NP2DZ	WP2AHF
Puerto Rico		KP4RG	WP4ZV	WP4JNC

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will be taking pot shots at most all other radio users, and Amateur Radio, including the populous 144, 220 and 450 bands, might become primary targets of opportunity for those who are spectrum hungry in other services. (*W6RCL*); (*Westlink Report,* 10/26/90)

The October 26 issue of *Westlink Report* reveals that Herbert Schoenbohm, KV4FZ, Richard K. Eastman, N5FX, and William Terrill, K2BFI, each received a $1000 fine for violating Section 97.101(d) of the Amateur rules, which reads: "No Amateur operator shall willfully or maliciously interfere with or cause interference to any radio communication or signal." (*Westlink Report,* 10/26/90)

Richard Burton, ex-WB6JAC, of Harbor City, California was sentenced by Judge Robert M. Takasugi on Oct. 1 to one year probation, a $2,000 fine and continuing psychiatric care. He was found guilty by a Los Angeles jury on July 18 of operating a 2M Amateur Radio without a license for the second time (a felony). Burton had previously served seven months in prison for the same offense in 1982.

Effective Oct. 1, 1990, Canadian Amateurs may use any mode or emission on any Amateur frequency. A 6kHz bandwidth is allowed on 160, 75/80, 40, 20, 17, 15 and 12M; 1kHz on 30M; 20kHz on 10M, 30kHz on 6 and 2M, 100kHz on 220-225 MHz, and 12 kHz on 430-450 and 902-928 MHz. (The 12 kHz bandwidth was approved on the basis that it is difficult to filter ATV vestigial sidebands.) The maximum bandwidth is "not specified" above 1,215 GHz. The new Canadian Mode deregulation will allow Amateurs to use the new technologies as soon as they become available without waiting for DOC regulations to implement them.

The FCC Authorization Act (signed Oct. 1) includes several items of interest. Work has now been completed, with the changing of the Communications Act of 1934, to include a prohibition against willful or malicious interference. The new Section 333 reads: "No person shall willfully or maliciously interfere with or cause interference to any radiocommunications of any station licensed or authorized by or under this Act or operated by the United States Government." Until now, such transgressions were violations of FCC rules, rather than of Federal statutes. □

MARS service for Army

(continued from page 3)

family member's home and a phone patch allows the soldier to talk to his family member over the radio-phone connection."

Army MARS operators in Saudi Arabia are making around 150 to 200 phone patches a day, Sutton says. He noted that during major holidays like Thanksgiving, Christmas, and Mothers Day, — and more recently in support of Desert Shield — the telephone company, US Sprint, has been providing soldiers using MARS with free phone calls within the US. "Since our soldiers started arriving over there, Army MARS operators have also processed over 4,200 MARSgrams," he added, noting that MARSgrams are written messages which are transmitted over the airwaves using digital, computer-controlled radio signals.

"Phone patches can only be originated by service members overseas," Pugh explained, "but MARSgrams, which are limited to 30 words, can go either way."

With more and more service members going to the Gulf every day, additional drop off points for the radio-transmitted messages are being established all over the United States at many military installations. At Fort Huachuca, messages can be dropped off at either the Army MARS station or at the installations's Murr Recreation Center. "A message will be sent out the same day it is received and should be delivered to the recipient within three days," said Pugh.

The primary mission of MARS, which dates back to 1925, is to provide an alternate means of communication during times of emergency. MARS was used in recent years during the San Francisco earthquake and Hurricane Hugo. MARS also contributes to the very important task of maintaining the morale and welfare of the troops both in peacetime and during times of conflict. □

When submitting photos, please *DO NOT* write on the backs of them — they often stain the fronts of other photos, making them unusable.

Silent Keys

Cpt. Robert W. Carter, K6DW

On Friday, May 4, 1990, services were held for Captain Robert W. Carter, K6DW in Ft. Lauderdale, Florida. A member of the ARRL, Navy League, Retired Officers Association and other organizations, Captain Carter was USNR retired and held the calls 9DW (Department of Commerce license #098, 1919), W9DW, W9UZF, W9VFW and K2IE/MM. Captain Carter is survived by his son, Mr. Robert W. Carter, N4JZC. Captain Carter was buried at sea by the US Navy. — *Information submitted by L.H. Lazar, W4BKX, friend and shipmate since 1935.* □

Ralph F. Clements, K6AB

Ralph F. Clements, K6AB, became a silent key at the age of 85 after a successful career in broadcasting. He had retired from NBC-TV as West Coast field supervisor of technical operations.

He always credited Amateur Radio for helping him break into the profession. His first ham ticket was earned in the twenties. His first job as a radio engineer was in 1923 at KDKA, "the nation's first station," as it is usually regarded, in Pittsburgh.

Later he spent 10 years as a soundman for Paramount news, followed by joining NBC in 1939.

Special——Events...

GLARC anniversary

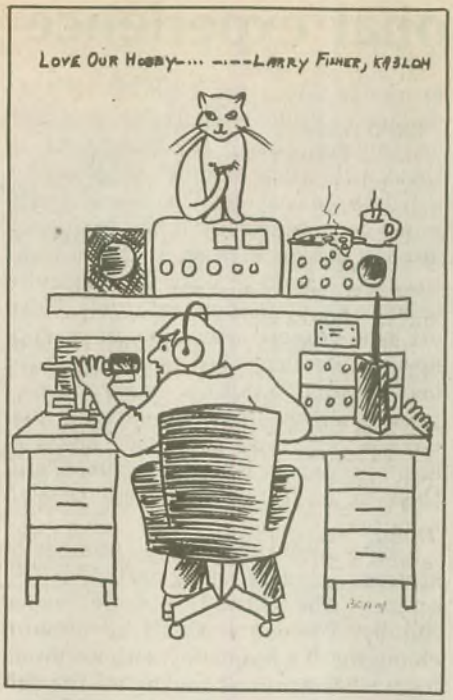
The Great Lakes Naval Training Center Amateur Radio Club will sponsor special event station WV7T/9 from 0000Z Jan. 5 to 2359Z Jan. 6, 1991 to celebrate the club's 3rd anniversary.

Operation will be in the lower 50 kHz of the General and Novice phone bands.

QSL via Great Lakes ARC, Bldg. 153, Camp Berry, Great Lakes, IL 60088-5705. Be sure to include the operator's name and call sign; SASE is not required. □

Sled Dog Marathon

Duluth area hams will operate special event station KBØDAV (Dogs After Victory) on January 15-21 to commemorate the 8th annual John Beargrease Sled Dog Marathon. Beargrease Amateur Radio Coalition (BARC) provides a safety net for the health and welfare of the mushers and dogs during the 500 mile wilderness race. Operations will be ongoing throughout the race, SSB and CW 10 through 80M. For QSL, send your QSL and SASE to BARC, P.O. Box 500, Duluth, MN 55801. □



". . . then the XYL said I should have spent the five hours weeding the garden instead of trying to crack the pileup on that station in Papua, New Guinea!"

Novice notes

Is contesting for me?

What if I don't have time to put in an all-out effort?

Is there more to contesting than winning?

The great thing about contests is that you can decide at the spur of the moment whether you want to participate or not. You can get into a contest merely when the mood strikes, make 25 contacts and resume whatever else you were doing — whether it be mowing the lawn, watching the game, playing with the kids or protest marching for giraffe rights.

You don't need to pre-register and you don't need any official forms (unless you later decide to submit your log). You don't need to wait in line all night to get your tickets. Just tune across the bands, say on a Saturday morning when you have a spare half hour or so. If you come across a spirited concentration of signals that might be the ham radio equivalent of the feeding frenzy surrounding Dan Quayle's first national press conference or the new version of *The War of the Worlds*, it's a contest!

It's perfectly fine to sit down at the rig and work a few stations, then take a break or call it quits. —*MMARC Sparks* □

Share your knowledge with your fellow amateur and Worldradio reader

HF packet: a personal experience

LEE ZALAZNIK, KI6OY

My HF packet station is modest by most standards. I am running 100W out into a long wire dipole. The computer is an IBM clone and the TNC is an AEA PK232. The modem in the PK232 is a Bell 103 running at 300 baud.

Using this equipment, I have contacted about 25 stations in the United States, from Maine to Washington state. The longest in distance is FO5LQ in Tahiti and AH6Y in Maui, on 15M. Also, 10M is very active with HF packet, which includes Europeans and South Americans.

Problems that you will run into using HF packet. What I have found is that the Packet Length (PACLEN) and Maximum Number of Outstanding Unacknowledged Packets (MAXFRAME) have to be shortened. Change PACLEN to less than 32 and MAXFRAME to 1. Sometimes the PACLEN can be lengthened to 80 if solid signals are present, but if the path has a lot of QSB, the packets can be lost in transmission and the number of retries will increase.

Sometimes decreasing PACLEN further will keep the connection and reduce the number of retries. The reason to decrease PACLEN is the number of bytes sent is shorter and makes it less likely that a static crash or other interference will corrupt the packet.

Set FRACK to a sensibly long value, such as 10. This will prevent premature disconnection if the retries start to get excessive. Also set USERS to 1 to disable multiple connections and turn off the digipeating function. Both of these will reduce channel congestion.

Kill those beacons! Use beacons with much care, especially if the frequency already has packets on it. If you want to call CQ, send three or four unprotocalled CQs at random intervals. Turn off the beacon after you have connected. Not using the beacon makes for better through-put for everyone and yourself. Only use the beacon if you have a very clear frequency and you know for sure it is not being used, and then at an interval of one to two minutes.

I have found that as the number of stations increases on a particular frequency, the through-put decreases rapidly. To counter this I have found changing to a frequency with as few as four other stations makes all the difference. Also, if a BBS is on the same frequency, the through-put almost drops to zero because the BBS is sending long and sometimes continuous packets.

The carrier detect collision system using HF packet assumes that all stations can hear one another. HF has one way paths so all stations on the same frequency do not hear each other transmitting. In addition, if all stations are not on the same frequency for each other's modems to hear each other's FSK tones, the carrier detect collision system may not work very well. This leads to collisions and retries. The only solution to this in Amateur Radio is to change to a clearer frequency or try to tune onto the same frequency as the other stations.

Since packet is a burst type of transmission, I can run my FT-757 GX at full power without overheating the finals. There is also power savings, since the transmitter is turned on only when a packet is sent.

Frequency stability is a factor in packet operation. The transmitter and the receiver must be within 50 Hz of each other for the FSK tones to be detected by the TNC's modem. Most modern radios exceed this specification, but I have found that the drift on the FT-757GX during warm up can be enough to drift out of the FSK modems passband. Also, use a 500 Hz filter if you have one. It will help keep the side splatter out of the modems passband and cause fewer retries.

Some frequencies on HF packet are very busy, and with a low powered station I will not try to use them or will use them for calling and then QSY to another frequency. Here is a list of some common HF frequencies I have used: *Calling Frequencies* — 20M 14.103, 15M 21.105, 10M 28.105. *Working Frequencies* — 20M 14.097, 14.099, 14.105, 14.111, 14.113; 15M 21.099, 21.103, 21.105; 10M 28.099, 28.103, 28.105.

An additional tip for packet operation. Sometimes it's fun to read the mail while connected to someone else, by turning on the monitor function. It also gives one a chance to see what other stations are on the frequency. If the screen gets too messy or one is in a deep conversation with a very good connection, it helps to monitor the other activity on the frequency.

Conclusion: All the problems with HF packet aside, I have had a blast using it. It is an error free mode of transmission and only those will get through. With Novices using 10M and the sunspot cycle on the way up, the next several years should be some of the best for HF packet. So join the revolution. □

Bicycling hams

Are you a cyclist? If so you may be interested to know that Hartley Alley, NAØA, is organizing bicycling hams across the country. He has started a group called "Bicycle Mobile Hams of America" (BMHA). He has about 80 people on the roster so far, and he's held an exhibit at Dayton. If you are interested in this fun activity, drop a line to him at Box 4009, Boulder, CO 80306. And listen for KDØRC bicycle mobile on 146.76, 145.46 and 146.70 MHz! □

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The keyer mounts on a Bencher paddle to form a small (4-1/8 x 2-5/8 x 5½ inches) attractive combination that is a pleasure to look at and use.

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Now you can quickly optimize your antenna for peak performance with this portable, totally self-contained antenna bridge.

No other equipment needed -- take it to your antenna site. Determine if your antenna is too long or too short, measure its resonate frequency and antenna resistance to 500 ohms. It's the easiest, most convenient way to determine antenna performance. Built in resistance bridge, null meter, tunable oscillator-driver (1.8-30 MHz). Use 9 V battery or 110 VAC with AC adapter, $12.95.

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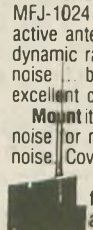
"World Radio TV Handbook" says MFJ-1024 is a "first rate easy-to-operate active antenna ... quiet ... excellent dynamic range ... good gain ... very low noise ... broad frequency coverage ... excellent choice."

Mount it outdoors away from electrical noise for maximum signal, minimum noise. Covers 50 KHz to 30 MHz.

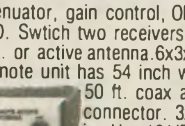


Receives strong, clear signals from all over the world. 20 dB attenuator, gain control, ON LED. Swtich two receivers and aux. or active antenna. 6x3x5 in. Remote unit has 54 inch whip, 50 ft. coax and connector. 3x2x4 in. Use 12 VDC or 110 VAC with MFJ-1312, $12.95.

MFJ-1024 **$129.95**

VHF SWR/Wattmeter

MFJ-812B **$29.95**



Covers 2 Meters and 220 MHz. 30 or 300 Watt scales. Also reads relative field strength 1-170 MHz and SWR above 14 MHz. 4½x2¼x3 in.

MFJ Coax Antenna Switches

$34.95 MFJ-1701

$21.95 MFJ-1702B

$59.95 MFJ-1704

Select any of several antennas from your operating desk with these MFJ Coax Switches. They feature mounting holes and automatic grounding of unused terminals. They come with MFJ's one year **unconditional** guarantee. **MFJ-1701,** $34.95. Six position antenna switch. SO-239 connectors. 50-75 ohm loads. 2 KW PEP, 1 KW CW. Black alum. cabinet. 10x3x1½ inches. **MFJ-1702B,** $21.95. 2 positions plus new Center Ground. 2.5 KW PEP, 1 KW CW. Insertion loss below .2 dB. 50 dB isolation at 450 MHz. 50 ohm. 3x2x2 in. **MFJ-1704,** $59.95. 4 position cavity switch with lightening/surge protection device. Center ground. 2.5 KW PEP, 1 KW CW. Low SWR. Isolation better than 50 dB at 500 MHz. Negligible loss. 50 ohm. 6¼x4¼x1¼ in.

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MFJ-262 **$69.95**

MFJ-264 **$59.95**

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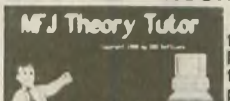

MFJ Theory Tutor practically guarantees you'll pass the theory part of any FCC ham license exam. Versatile MFJ software is the best computer tutor ever tailor-made for ham radio. You can study the entire FCC question pool, selected areas and take (or print) sample tests. Auto. saves each study session (ex. sample tests), gives you all FCC test graphics (ex. mono.), explanations of hard questions, pop-up calculator, weighted scoring analysis, color change option and more. **Order** MFJ-1610-**Novice**; MFJ-1611-**Tech.**; MFJ-1612-**Gen.**; MFJ-1613-**Adv.**; MFJ-1614-**Ex.** for **IBM compatible.** For **Macintosh:** MFJ-1630-N; MFJ-1631-T; MFJ-1632-G; MFJ-1633-A; MFJ-1634-E, **$29.95** per license class.

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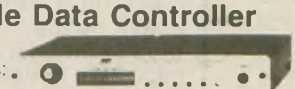

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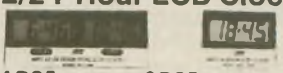

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Mechanical zero adjusts for movement. SO-239 connectors. Lamp uses 12 VDC or 110 VAC with MFJ-1312, $12.95.

Deluxe Code Practice Oscillator

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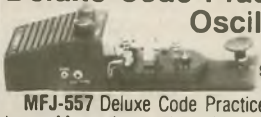

MFJ-557 Deluxe Code Practice Oscillator has a Morse key and oscillator unit mounted together on a heavy steel base so it stays put on your table. Portable because it runs on a 9-volt battery (not included) or an AC adapter ($12.95) that plugs into a jack on the side.

Earphone jack for private practice, Tone and Volume controls for a wide range of sound. Speaker. Key has adjustable contacts and can be hooked to your transmitter. Sturdy. 8½x2¼x3¾ in.

MFJ Multiple DC Outlet

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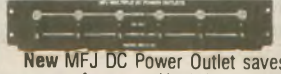

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PUBLIC SERVICE

The Amateur operator in time of need

RUSS BANKSON, N6GWL

What is the Amateur Radio operator's role as a public service volunteer operating in an emergency? Amateurs provide communications for public service agencies when established communications are overloaded, damaged, or entirely inoperative.

When an emergency or disaster strikes a community, the Amateur public service volunteer checks in to pre-established nets to report conditions in his locality and his capability and availability to help. If there is a need for Amateur communications, he awaits directions; he may be asked to report to the City Emergency Office of Command, Incident Commander, Forest Service, Amateur Net Control Club House, local fire department, Red Cross shelter, hospital or any other area where Amateur communications are needed. When all established communications are operable, he merely monitors them and remains available to assist if needed.

Responding to an assignment sometimes means more than showing up with a hand-held transceiver. The Amateurs during the October 17, 1989 earthquake in California had to install antennas, coaxial cables, light for operating positions and power supplies for mobile transceivers to use in base operations. They brought their own equipment and supplies, from battery charging systems, tools and survival kits to maps, phone numbers and writing material. They provided transportation and personally paid for fuel and other costs. Many of the locations were in operation around the clock for several days. These Amateur operators demonstrated not only their expertise and professionalism, but their dedication to their role as public service volunteers.

Yet little or nothing has been said about the communications service provided by Amateurs during the earthquake when phones were disabled and electrical power was out. Within 20 minutes of the 5:04 p.m. earthquake, Amateurs had checked in to the reporting nets and the Red Cross Amateur Radio stations. Lives were in danger. The tactical emergency net was established immediately.

The Red Cross needed the aid of Amateur Radio operators to activate shelters and provide food and clothing for thousands of people; store and transport donations of supplies; provide safe routes between cities to supply points; provide communications between leaders; create a resource net to assign and keep track of volunteers; provide shift changes for personnel around the clock; provide communications between the Western Red Cross field office and other Red Cross chapters; and provide communications between other emergency aid agencies such as police, fire departments, hospitals, the Navy and Air Force, the State Office of Emergency Service and damage evaluators.

The following relates some of the communications traffic handled by Amateur Radio operators in the aftermath of this disaster which caused devastation in Watsonville, Santa Cruz, San Jose, Oakland and San Francisco.

BOOTS, SOX AND RAIN GEAR NEEDED—WHO CAN SUPPLY?... 22000 POUNDS OF FRESH FRUIT AND VEGETABLES—WHO CAN USE NOW? ... PEOPLE-FINDING DOG TEAMS ARE COMING ... MAN WITH INFRA RED PEOPLE-FINDER ARRIVED FROM NEW YORK, REPORT WHERE? ... NEED CANNED FOOD, COTS AND TENTS ... NURSE'S THERMOMETER IS BROKEN AND NEEDS REPLACEMENT ... HELICOPTER IS LOADED FOR SANTA CRUZ, WHERE TO LAND? ... NEED PRESCRIPTION FILLED, DRUG STORE IS CLOSED ... HARD HATS ARE NEEDED ... SHELTER IS CLOSING, MOVING WHERE? ... AMATEUR NEAR CYPRESS DISASTER MUST HAVE DUST MASKS ... AMATEURS COMING FROM OVER 200 MILES WITH SELF CONTAINED UNITS ... 1500 HOMES IN OAKLAND ARE DAMAGED ... SEVERAL CONVOY OF TRUCKS ARE GOING TO SANTA CRUZ FROM BAY AREA ... MORE AMATEURS ARE NEEDED, SOME HAVE BEEN WORKING AROUND THE CLOCK ... WHAT ARE THE COMMUNICATION PATHS BEING USED? ... MESSAGE FROM ST. CROIX, VIRGIN ISLAND — RED CROSS WORKER — "I WANT TO COME HOME" ... SUPPLY TRUCK IS MISSING FOR 14 HOURS, REPORT IF FOUND ... OPERATOR NEEDED FOR THE BLOOD BANK ... HOSPITAL NEEDS COMMUNICATIONS PATH TO BLOOD BANK ... TWO RED CROSS BACK-UP POWER GENERATORS WILL NOT START ... NEED MORE SHELTER MANAGERS FOR REPLACEMENT ... JIM STONE, FREMONT CITY OFFICIAL MANNING A SHELTER ... OAKLAND DISASTER CONTROL WANTS AMATEUR SERVICE ... CELLULAR TELEPHONES BEING SENT TO WATSONVILLE AND SANTA CRUZ ... FRESNO IS SENDING SUPPLIES TO WATSONVILLE ... REGION 2 OFFICE OF EMERGENCY SERVICE ON AMATEUR FREQUENCIES ...

This is just a sample of the many messages handled by the tactical emergency net of Amateurs. You can imagine the service provided by Amateurs in other natural disasters such as floods, hurricanes, tornados, fires, and storms as well as in any breakdown of our conventional communications systems. When people are in need, Amateur Radio operators are there, doing everything they can to provide vital communications. □

Amateurs and public safety

MIKE SMITH, N0HJY, 911 Dispatcher, Ramsey County Sheriff's Office

As radio Amateurs we have a responsibility and obligation to assist the public whenever the need arises. In some instances this assistance takes dramatic forms and is highly visible from a public relations point of view. In a major disaster the contributions made by Amateurs usually are noted at some point on radio or TV and this can be highly satisfying and as close as we come to being rewarded for our efforts. When the big ones come, we are ready and willing to swing into action and that's a good feeling.

But what about the smaller events that occur on a day-to-day basis? How do we serve the public interest in between those major events that make headlines?

Well, we have traffic nets and SKYWARN. We have club activities and classes. We have special interest groups that aim to involve handicapped and other minority groups in our hobby. These all serve their purpose and, for the most part, accomplish their goals quite well. What I have in mind is on a smaller scale than these and does not require coordination and group skills.

How many times have you passed a stalled car on the freeway and not used your equipment to call for aid to those people? How often have you witnessed something suspicious and not bothered to use your equipment to notify the local police? Maybe it was unsafe for you to do so at the time.

By all means, if you cannot maintain safe control of your vehicle while juggling a loose hand-held, then you should wait until you can stop or otherwise place the call safely. But if you avoided making that call for less practical reasons, then perhaps you need to spend some time reading the first few pages of the handbook.

Consider that many people complain that the response time of the average public safety agency is slower than slow. The fact is that you can only provide the level of service to a community that the budget allows for. The reality is that most budgets don't allow for saturation patroling of a given community or highway/interstate system.

Before a public safety agency can respond to a problem, they must be made aware of the problem. Although you have heard it before, it is true that the police are never around when you need them, but you can rest assured that once they know where they should be, they will get there. Public safety agencies rely on you to be the eyes and ears that assist them throughout the entire area they serve.

You should report any stalled vehicle that is occupied, blocking traffic or is likely to present a hazard of any kind to other motorists. It is very important to report stalled vehicles with elderly passengers, since the cold can rapidly become dangerous or life-threatening to these people.

You should report any activity that appears to be criminal or suspicious — if not on your radio then at the nearest payphone. Do NOT endanger yourself in any way! If you cannot safely make the report at the time you observe the problem, make mental note of as many details as possible and make the call when it is safe to do so.

Be as specific as possible when giving a location. Try to give such details as northbound, southbound, eastbound, etc. Give nearest cross streets and in what city they are located. Try to judge accurate distances in terms of how far it would be to the next major intersection.

When describing vehicles try to get such details as license plate numbers (very helpful yet seldom noted), make, year, model, color, number of doors, style (hatchback, full-size, station wagon, pickup, hard top or soft) and anything unique about the vehicle that would separate it from others just like it (large rust hole and primer paint on the front passenger door, CB whip antenna on the bumper, crack in the windshield, etc.).

When describing people start from the top and work down — hat (type, color, etc.); hair (length, cut, color); eyes; nose; mouth (gold fillings, braces, missing teeth, discolored teeth, etc.); ears (earrings); any scars or birthmarks; shape of the jaw, face and ears; hands (rings, watches, tattoos and scars); coat; shirt; sweater; pants; shoes. Try to note anything that would stand out about the person first and then fill in the rest from the suggestions above.

If you report an accident, try to be aware of any injuries and their severity. If you come upon the scene of an accident and it appears that Public Safety has not been notified, you should make that a high priority. Even if you are trained in first aid or fire fighting you cannot handle the job alone. The sooner you have assistance the better for everyone involved.

You must judge your ability and training and act accordingly. Never attempt anything more than you are qualified to do.

Never endanger yourself at an accident scene. Even if the only action you take is to notify the proper authority, you have probably accomplished more than you realize. Just getting the tools and skills needed to the scene will save time, limit property damage and loss of life. What more can you hope for!

If Amateurs can be prepared to assist on the big disasters, there is no reason they can't be prepared for the little everyday ones. Carry a notebook and pen or pencil in the car. Have the basic survival supplies in your car so you don't fall victim yourself. Most of all, be prepared to use your equipment and skill whenever the need arises. —*Groundwave* □

On-the-air General code classes

Southern California radio Amateurs may now take a free on-the-air Gordon West General code and theory class, just by tuning in.

The class meets each Tuesday evening at 7 p.m., on 28.333 MHz. 28.333 MHz is available for all classes of Amateur Radio operator, from Novice on up. This frequency also allows for voice, as well as code, practice. This allows Gordon to voice the theory part of the course, as well as play code practice on the same frequency (700 hertz shift for no-tune operation).

"This class makes sense on the air," said Gordon, WB6NOA. "Why should students drive a half hour to a code class when they can do the same thing right at their own home station?

"And they won't have any problem in hearing us — we are operating through a remote base system with a main transmitter high atop the Palos Verdes hills. We have received General code class reception reports from as far north as Santa Barbara, as far south as San Diego and as far inland as Palm Springs."

The link system, part of the WA6TWF super system, also allows Gordon to field questions all over the southland. He also utilizes additional receivers for monitoring incoming calls from low powered stations in Orange County.

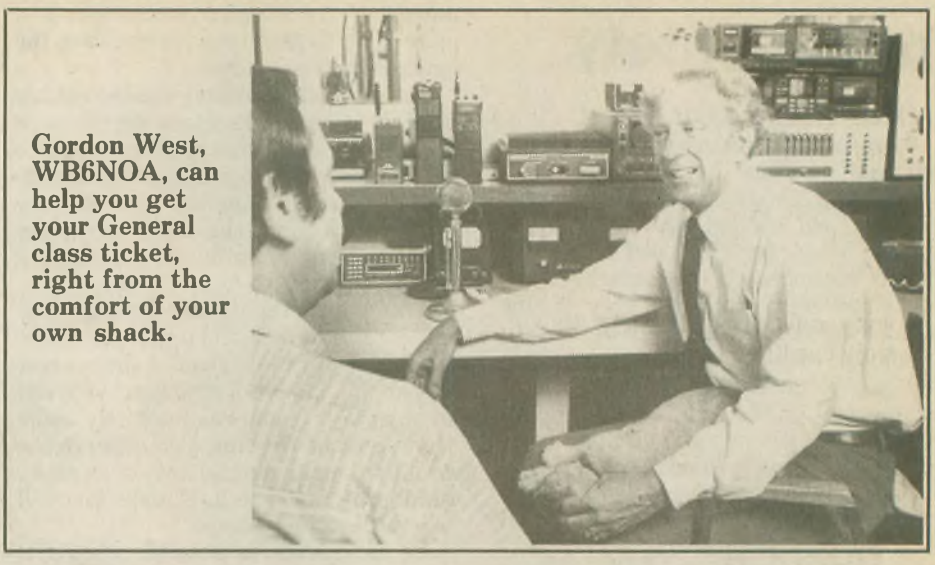
The end of the eight week session features a VE-administered test session that all listeners are encouraged to attend. Details about when and where the code test will be administered are announced right on the air.

"VE systems all over the southland are contacting me to test our students — they want to see whether or not this class is really going to work out, and I think that it is," states Gordon, best known for his books and Morse code training tapes.

Every week the code is increased 1 wpm faster. However, the code character rate is constantly held at 15 wpm and big spaces to slow it down to 5 wpm for the first class session.

Interested in obtaining your General class code license, right on the air? Tune in on Tuesday nights, 28.333 MHz, and hear for yourself how much fun it is to take a General class code and theory course, right at your shack. However, keep that mic handy — chances are Gordon will be calling on you to read back some of the copy you have written down.

For more information contact Gordon West Radio School, 714/434-0666 "Class Line," or 714/549-5000 "Hot Line." □



Gordon West, WB6NOA, can help you get your General class ticket, right from the comfort of your own shack.

Zapped?

The lightning rods and surge arresters many homeowners rely on to protect their property from damages caused by lightning strikes may not be effective, according to lightning researcher Dr. E. Philip Krider of the University of Arizona in Tucson.

Dr. Krider is part of a team researching the causes and effects of "triggered lightning," that is, lightning triggered by the passage of a rocket or aircraft through otherwise lightning-free clouds.

In a paper presented at the annual meeting of the American Association for the Advancement of Science, Dr. Krider said that his team has found that the current in a lightning bolt can surge up to 400,000 amps in a millionth of a second, about 20 times faster than had previously been thought possible.

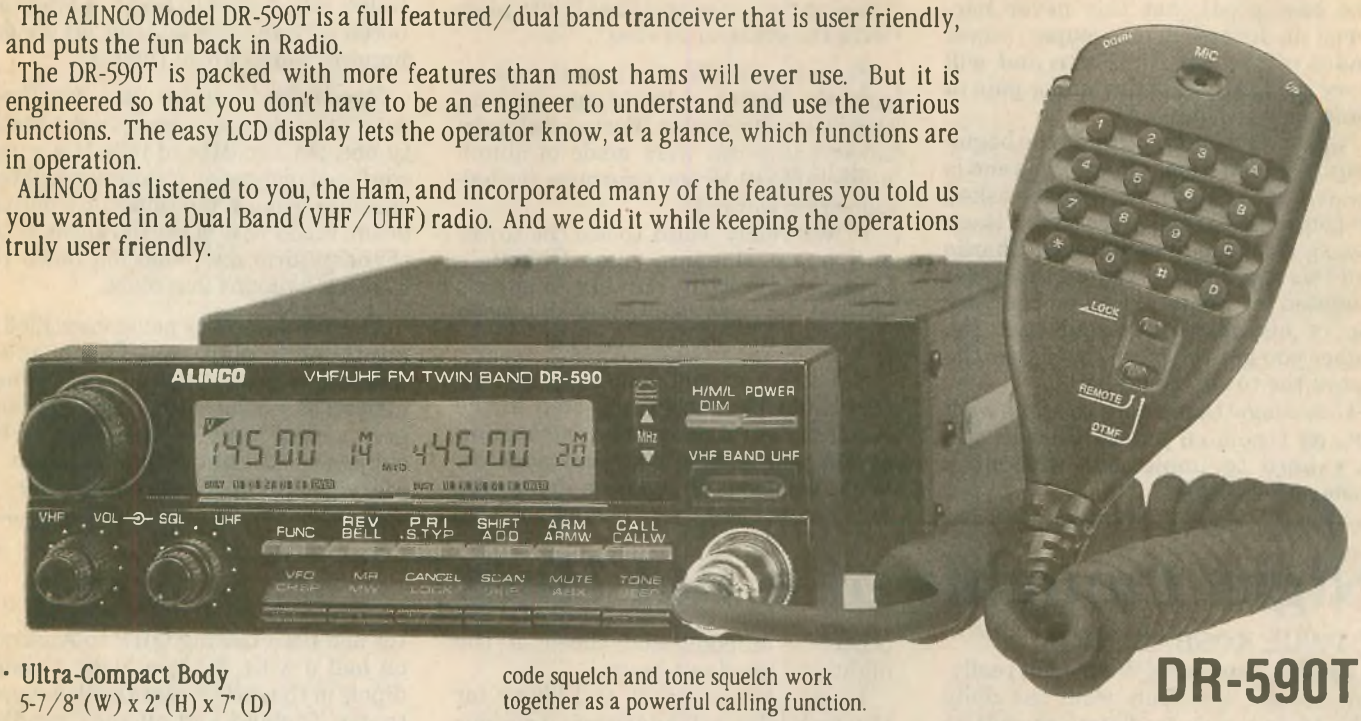
According to Dr. Krider, this means that current technology lightning rods and surge arresters "are probably not fast enough" to protect against lightning damage. "You need to have a protective system that is much faster than we thought was necessary even ten years ago." —*Fulton Amateur Radio Club, Fulton, NY* □

THE REMOTABLE TWIN BANDER

The ALINCO Model DR-590T is a full featured/dual band tranceiver that is user friendly, and puts the fun back in Radio.

The DR-590T is packed with more features than most hams will ever use. But it is engineered so that you don't have to be an engineer to understand and use the various functions. The easy LCD display lets the operator know, at a glance, which functions are in operation.

ALINCO has listened to you, the Ham, and incorporated many of the features you told us you wanted in a Dual Band (VHF/UHF) radio. And we did it while keeping the operations truly user friendly.



DR-590T

- **Ultra-Compact Body**
  5-7/8" (W) x 2" (H) x 7" (D)
- **High Power (Selectable)**
  High: 45W at VHF — High: 35W at UHF
  Middle: 10W — Middle: 8W
  Low: 5W — Low: 4W
- **Extended Receiver Range**
  144.00 - 147.995 Mhz (TX), 130 - 173.995 Mhz (RX), 440.00 - 449.995 Mhz (TX), 410 -470 Mhz (RX)
  (Specification guaranteed on amateur bandsonly. Modifiable for MARS/CAP permits required)

FEATURES

- **Simultaneous**
  Receiving on both bands at the same time
  Scanning intermix scan model on both bands at the same time.
- **Independent VHF & UHF Controls**
- **Detachable**
  With the optional remoting kit, the front panel can be seperated from the main unit.
- **DSQ (DTMF Squelch) Function**
- **Code Squelch Function**
  You can program a 3 digit code that will open the squelch only when the same code signal is receive from another transceiver. This allows for selective receiving. Additionally, with the optional tone squelch unit, the code squelch and tone squelch work together as a powerful calling function.
- **Various Useful Paging Functions for Grouping Calling and Individual Calling**
- **Remote Control Microphone**
  With this microphone there are several functions that can be controlled remotely:
  1. Direct setting of frequencies in VFO mode
  2. Up/Down of memory channels in memory mode
  3. Shifting to call mode
  4. ARM (Automatic Repeater Mode)
  5. VHF/UHF Switching
  6. Up/Down by 1 Mhz steps
  7. Setting and Selecting DSQ codes
  8. Setting and Automatic Dialer
- **Scanning Features**
  Memory Scan, Program Scan, ARM Scan, Band Scan, and more Scan.
- **Memory Channels**
  The unit has 28 memory channels, one independent "Call" channel, and 10 ARM memory channels (40 channels in total). You can program set tones, shift frequences, shift directions, and channel steps in each of the 28 memory channels.
- **ARM (Automatic Repeater Memory) Function**
  10 repeater channels can be memorized automatically. While ARM mode is active, scanning stops at vacant channels and pauses, then starts again automatically. This function is useful to find vacant repeaters.
- **ABX (Automatic Band Exchange) Function**
- **Bell Function**
- **Dimmer Function**
  Selectable 2 different brightness of LCD light
- **Three Priority Functions**
  VFO Priority, Memory Priority and Call Priority.
- **Repeater Operation**
  The DR-590T can be used as a cross band repeater.
- **Full Duplex Cross band Operation**
- **Others**
  1. Auto Dialer Function
  2. 6 Channel Steps (5/10/12.5/15/20/25 Khz)
  3. DTMF Monitor Function
  4. 38 Sub-Audible Tones built-in
  5. And Many Other Features

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The tower that never was

JAMES F. REID, KD3S

Of course, all this never happened. The best proof that this never happened is locked in the super secret vaults of the US Air Force and will never see the light of day under pain of some very red faces.

Perhaps I'd better start at the beginning. My good friend Charlie was and is the salt of the earth and when he asked for some help in raising his tower, there was no shortage of volunteers. Charlie had this idea that he wanted the tower mounted on a base placed on the very top of his house. He said that the higher you got the base, the higher the rest of the tower would be.

That's logic that's hard to argue with but, as I pointed out to Charlie, it's very hard to implement without a crane or helicopter.

"No sweat," Charlie said, "I've got a mess of weather balloons, and we'll tie them to the tower and float it into place with the greatest of ease."

Sometimes Charlie's enthusiasm gets the better of my judgment and this was no exception. Fortunately, the tower and beam were made of aluminum and to everyone's surprise the balloon trick worked.

It was really weird to see the tower and beam floating over Charlie's house, held down by only six Amateurs holding the guys. This could have been our ticket to fame and fortune.

We were excitedly discussing how this could be a really big step in the Amateur world of antenna raising and at the same time line our pockets. What we should have been doing was paying more attention to the weather.

With the suddenness that characterizes thunderstorms in Ohio, the wind increased sharply and quicker than it takes to tell it the balloons, tower and beam were on their way to Chicago. Ralph, who forgot to let go, quickly got bored with the trip and got off about a hundred yards down the road.

Now here is where the Air Force enters the picture. . .and it's not a pretty one. As a matter of fact, it's a very confused picture of scrambled fighters chasing radar reflections of Charlie's beam, stalking it in the darkness of the thunderstorm and shooting down the weather balloons in a blaze.

The wreckage was never identified as anything foreign or UFOish and a newspaper article quoted an Air Force general as saying, "I'm not prepared to give a statement at this time as the subject is still under investigation. — *Maryland Radio Center Newsletter* □

Night thoughts of a Bat Ham

F. PAUL KOSBAB, NF4E

I am an insomniac. Well — not really. But since I withdrew from the daily nine to five race to devote myself to freelance activities, my lifestyle and sleeping habits have changed to that of a part-time day, but mostly night person.

Thus, I have come across the "Bat-Net," in Tulsa, OK, ably and enthusiastically run on the 146.88 MHz WA5RVT repeater by WD5KAG. The net manages to collect a group of congenial, fascinating "night people" and even more fascinating topics for discussion daily, from midnight to 0400 a.m.

It is one of the best — perhaps the best — nets I have encountered, so far; and, from my point of view, a true and vital service to its members and to whomever wants to listen in during the otherwise unpopulated times of the night and pre-dawn hours.

I have great respect and liking for the technological advances Amateur Radio and its dedicated members have spearheaded, devised and implemented over the years. I cherish the thought of health and welfare messages being conveyed during times of emergencies and local disasters and I salute the dedicated efforts of competent operators on the various traffic nets serving the public good. But apart from all that, and considering what might be called "routine operations" on the Amateur Radio frequencies currently assigned, the one thing that has always concerned and at times slightly bothered me has been the relative lack of communicative content above and beyond the exchange of technical information, signal reports and a more or less detailed account and elaboration on the current weather conditions at the respective QTH.

It's wonderful to learn that the other station has an antenna tower 150 ft. above the ground table and several others to boot, one for each band; or, conversely, that the respective operator had been talking QRP to Australia on half a watt, no less, with a simple dipole in the attic (I was thrilled myself to get England and all the Scandinavians with half a watt or less, after my regular power supply had broken down during vacation time), and I certainly admire the persistence and tenacity of DXers and Honor Roll members with 200, 300 or more countries to their credit.

But then again, the question comes to mind whether or not this is what Amateur Radio is or should be all about.

"Of course not!", I suspect the immediate, reflexive reply of most — if not all — members of our great frat/sorority would be. Our job is to communicate, to create goodwill among ourselves and our neighbors — and among the nations of the world.

Yes — of course. But how much of all this is real and how much of it has become mere lip service? To what extent is Amateur Radio nowadays just the enjoyment of collecting QSL cards and "wallpaper" of various sorts — or perhaps just playing around with the ever-increasing arrays of electronic bells and whistles at our current

disposal, with little or no regard for meaningful contents and for WHAT is actually being communicated?

Marshall McLuhan once produced his profoundly platitudinous but nevertheless insightful pronouncement that "The medium is the message." While this makes sense in a certain way, it leaves open the question of what message we should really be talking about. (As an analogue, the taking of photographs of in-themselves more or less meaningless items with a highly complex, technologically advanced camera comes to mind; the only "message" conveyed would — according to McLuhan — be that the camera, and the photographic principle *per se,* do work. But nothing more.)

To make any real sense at all, and to make the "medium" of Amateur Radio truly worthwhile in human terms, something else — a true message and meaningful communicative content — has to be superimposed on, and added to, the "carrier." And this is where the example of the Bat-Net of Tulsa comes in for me. Its participants have something to say. They know how to "make conversation" — almost a lost art these days. They have inspired me and rekindled my interest in Amateur Radio and its truly human aspects, after it was in some tangible danger of flagging from looking (or having my computer look) at endless rows of "data" and operational signals on the packet screen, with only an occasional "Hi!" or (often repeated) sentence fragment in ordinary American English interspersed here and there, after 15 or so retries.

We hear complaints these days that Amateur Radio has lost its appeal to younger people; that it suffers from over-aging of its operators, diminishing new entries and dwindling license renewals; that, in short, it should perhaps be summarily consigned to the status of a "dying hobby," soon to be discarded and replaced by the likes of UPS and similar commercial interests and utilities. Well, even if that is what some people think, I don't.

YEAH, I KNOW YOU HAVE A HANDHELD IN THERE, HOWIE, BUT I DON'T THINK THIS IS GOING TO WORK AS A WAVEGUIDE!

What I do think, though, is that Amateur Radio, as it now stands, needs a revival of the "human interest story."

Many, if not most, Amateurs are, I believe, still closet romantics at heart; and not a few of these were attracted to Amateur Radio for some romantic notions in the first place. I certainly was, when I was in my teens. And I also believe that youthful members of our present-day society still need, perhaps even yearn, for a similar kind of "romance," be it technological or otherwise.

In this regard, we, old-timers and newcomers alike, already licensed and in the saddle of daily operations, will have to take the lead by acting as real human beings and by feeling free enough to reveal and share enough of ourselves, our interests, our human experiences, to make it worthwhile again to listen in and to start talking just a bit over and beyond the levels of what has traditionally and lovingly become known as "ragchewing."

Well, all this, and more, occurred to me while listening and talking on the Bat-Net of Tulsa, with never a dull moment between midnight and 4 a.m. I thought I should share the experience.

It's perhaps just a small and "local" phenomenon in the overall scheme of things; a not-so-special case in point. But it demonstrates and represents at least one essential aspect of Amateur Radio — that of immediate, interpersonal, human interest — at its best, and by that token carries its own special message, eminently worthy of contemporary consideration. □

Novice Roundup

DANA TRAMBA, N0FYQ

During Novice Roundup,
It's family do-or-die.
"Sorry boys, I'll fix supper,
When I've worked one more guy!"

During Novice Roundup,
It's an effort to stay clean.
"Mom, all my socks are dirty."
Or — "There's a hole in my jeans!"

"I'm so sorry, honey,
Just wear them one more day.
Right now I'm really busy!
Can't let this station get away!"

During Novice Roundup,
I'm rude to many a guest.
Am I the only Kansan?
There's a pile-up on the set!

I'm a typical YL,
Because talk, *I like to do!*
But at this hectic moment,
An old man wants to ragchew!

After Novice Roundup,
My mailbox is packed as can be.
I can't believe the stations
That want QSL cards from me!

"My dear, do you recall
Who got me into this contest?
Look at all the QSL cards
Piled high upon my desk!"

"Since you're the sweetest old man ever,
Why not join me in this endeavor
And be my QSL manager?" □

Fishing fun

JIM KERNS, N4PUQ

The first Frozen Head State Park (Morgan County, TN) Junior Trout Tournament was held recently. The tournament was sponsored by the Morgan County Amateur Radio Club and area merchants donated more than $1,200 in prizes and cash for the winners.

Morgan County is located in the northeastern part of Tennessee, near the Kentucky State line. Despite freezing temperatures that morning, the affair drew a much bigger crowd of contestants and spectators than was anticipated. Two hundred and twenty-nine young trout fishermen between the ages of 7 and 15 were on the banks of the stream at starting time, 9 a.m.

Flat Creek runs several miles through the park. Since parents and other relatives also attended, it was estimated that the total number of people at the park was nearly 1,000.

The Tennessee Wildlife Resources Agency stocked 225 rainbow trout at various locations along the stream. Some were tagged for special prizes. Unfortunately, low water levels and the passing of a cold front put most of the fish off feed for the day, and catches were few and far between.

However, the beauty of the park and the undaunted enthusiasm of the young kept spirits high. Everyone had a great time and, even with the crowded fishing conditions, the young folks conducted themselves with utmost sportsmanship. We didn't hear a single complaint from anyone.

Members of the Morgan County ARC sponsored this fun-filled fishing event.

The tournament garnered a good crowd.

The small amphitheater at the park was filled to capacity as the weigh-in and prize award ceremony got under way at about 2 p.m. The biggest fish was caught by Tony Swint. It was a 13 inch rainbow that weighed 1.09 pounds. Tony won $160 worth of prizes, plus $30 in cash.

Boyd Franklin, KB4STE, president of the club, assisted by members and Park Manager Duane Wyrick, did an outstanding job with all the details. This led to a smooth and trouble-free day of fun in the great outdoors for all the young people. Hats off!

The tournament will be held again next year and will be bigger and better.

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

rfconcepts DualBand

revolutionary **AMP**

Designed for use with dual band hand-helds (HT's), the **rf**concepts DualBand Power Amplifier represents a revolutionary step in the state of the art. This dual band amp and preamp combination is the first to amplify both 2m and 70cm automatically.

The DualBand Amp senses power output from your HT through dual narrow band peak detectors using fast switching low insertion loss relays for automatic keying (RF sense and transmit).

Features including PIN diode protected twin GaAsFet preamplifiers for extended range in fringe areas, and an all-component PC board mount design for reliable performance and serviceability, make the DualBand ideal for both mobile and ham shack applications.

For a detailed technical specification sheet, call your **rf**concepts dealer or contact **rf**concepts direct.

The **rf**concepts DualBand, extra power for both 2m and 70cm, automatically.

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Marsh Island expedition

The Acadiana DX Association started talking about activating an island around the gulf coast in early March 1989. Two of the islands considered were Timberlier Island and Marsh Island. The group decided on Marsh Island, IOTA NA-120, because Timberlier had recently been activated and Marsh Island was very high on the IOTA needed list.

Then came the paperwork. After six rejections from the State of Louisiana for access to Marsh Island, they finally understood what the club was interested in doing on the island.

The Department of Wildlife and Fisheries furnished transportation to and from Marsh, using a 40 ft. crew boat based in Cypermore Point. On Thursday morning, October 26, the expeditioners met in Cypermore Point and began loading equipment.

Marsh Island is about seven miles offshore. On the trip out to the island the seas were almost glass smooth.

The club members were planning to be on the air with at least one transmitter by 1800Z, but were late by 45 minutes. Crack the whip!

The pileups started almost immediately. While the first operators began, the rest of the gang continued setting up the second station.

The Acadiana DX association, from Southwest Louisiana, activated Marsh Island, IOTA NA-120, from Oct. 26 to 29, 1989. In 65 hours of operating time, the group made almost 6,200 contacts.

Pictured are, from l to r, top row, W5RRK, K5BIV, NK5Y, N5JUJ, WA5ISZ, KB5DUP, KB5BUE, Mr. Eustis Viator of the Louisiana Wildlife and Fisheries; bottom row, l to r, KA5ZHG, WD5GJB, KF5EA, WD5DBV, NG5X, K5CON, W5UDA and WO5G.

The antennas in the background are a KLM KT-34, at about 40 ft., and to the left a Butternut vertical mounted in the water. All of the operators were impressed with how well the vertical actually worked. They received reports of as much as 30 and 40 over S9. It must have been the terrific ground plane that the salt water provided.

The CW/RTTY station consisted of a Yaesu 902 DM, Tono TU, Dentron MLA-2500B amp and a KLM-KT34. The phone station was a Kenwood TS-180, a Yaesu 2100 B amp and a Hygain TH3. The pileups continued into the second day and some operators were still waiting to have a hand at controlling them. So, a third station was brought on line, a Paragon and a Collins 30 L 1 amp.

After 30 hours of operating over 3,400 contacts had been made.

Then came the CQWW contest. It was like throwing a switch. It became a struggle to hear the stations calling, due to the QRM, but the pileups didn't stop and neither did the enthusiasm.

On Sunday morning the operators began taking down the stations and loading the boat. By noon all of the towers were down, antennas were disassembled and the boat was loaded. They were back on the way across the Vermillion Bay headed north to Cypermore Point, with many fine memories and stories to tell.

Marsh Island Wildlife Refuge is located on the central Gulf Coast of Louisiana, in the extreme southern part of Iberia Parish. This 72,000 acre refuge is composed primarily of brackish marsh and is an important area for many species of wildlife, including alligator, deer, otter, nutria, muskrat, raccoons, mink and many avian species of shorebirds, waterfowl and songbirds.

Marsh Island was purchased by Olivia Sage in 1912 and deeded to the Russell Sage Foundation in 1920. The island was received by the state in the same year, under a deed of donation. The Louisiana Department of Wildlife and Fisheries has been managing the island as a wildlife refuge since this time, primarily for wintering waterfowl. —*Information submitted by John Meech, N5JUJ* □

Future Shock: NTS in the year 2000

DAN OSTROY, K2UL
Editor, NJ Traffic Bulletin

The only thing constant in life is change. Sometimes change is a wonderful thing, sometimes it isn't (try to find a brontosaurus when you need one!) On this, my twentieth *and last* anniversary as bulletin editor, I'd like to reminisce a bit over the events of the past 35 years.

1964 hardly seems that long ago when this teenager received that spanking new SWL receiver. *Radio Moscow* and the BBC were interesting, but wait . . . what's this? Regular folks just talking to each other on 40M, and strange sounding dots and dashes. Wow!

The novice license arrived soon, and with it the discovery that CW was just plain fun. Kind of made the difference between ham radio and the telephone, you know. Novice nets paved the way for code skills and before you knew it, I had that Extra Class and I was hooked on traffic handling.

Single Sideband came on strong in the 60s and rumors that CW was dead. Nope, about as dead as horseback riding and sailing, in the days of fast cars and supersonic jets. FM repeaters were the fad of the 70s. A scant ten years later, activity on 2M was dead. Couldn't raise anybody for an intelligent conversation. The leading edge of technology had moved on.

In the 80s packet radio looked like the promised land of the future. We were on the road to eliminating the least reliable and least efficient component of ham radio — the hams.

Packet had a far bigger impact on traffic handling than anything before it. Store and forward digipeaters eliminated the TCC, Area and Region nets by 1990. Automatic voice message delivery (you know, where the BBS automatically calls the addressee of the message and a synthesized voice reads it over the phone) eliminated the personal aspect of radiogram delivery and most contact with the public.

We should have seen the writing on the wall with the invention of voice recognition software that could screen input messages for obscenity or commercial content. Then, it was just a matter of time before sysops were advertising their services to the general public. "Just dial 555-1234 and leave a message for Aunt Sarah. It'll be digitally forwarded across the country and delivered electronically in minutes, untouched by human hands!"

Two things killed Amateur Radio as we knew it. First, we forgot that technology for the sake of technology is foolish. The disastrous electrical storms of Summer '96 showed how fragile the modern technology can be. Digipeater after digipeater went south as lightning sizzled their delicate memories. Message handling ceased to exist for a time, until re-routing algorithms could be programmed and downloaded to surviving machines. For a while it seemed that the only radios on the air were the dinosaurs of the 50s and 60s with their *vacuum tubes.*

The following year, in '97, the arrival of the Packet Virus showed how susceptible we could be to malicious jamming. We were stunned when packet networks all over North America were inundated with self-generated viral packets that endlessly traversed the airwaves. It took a long time to clean out that mess.

Second, we forgot why ham radio and traffic handling flourished for so many years. It was fun, it was friendly and it was something nobody else could do. We didn't try to compete with the phone company or the post office. Message handling wasn't an end in itself, only a means to an end: emergency preparedness and communications training.

The shift to packet radio was the beginning of the end for those skills. The reliance on fragile high technology killed emergency preparedness. What looked like a convenient and easy method to move large numbers of messages had the side effect of eliminating the interest or need for any kind of training whatsoever. The real pioneering hobbyists got bored with slow speed packet technology and are now working on 1.5 Gigabit digital video teleconferencing using handheld laser television transceivers. The cutting edge of technology moves on.

Today, the National Traffic System and amateur traffic handling are memories from the past. Amateurs don't handle anything any more — computers do it all.

The computing power that can be found on a pin head today used to take up an entire shoebox in the 80s.

Amateur Radio itself is almost gone. The few hardy souls who still actually talk to each other on the air seem like dinosaurs from the distant past. Commercial voice and video messaging services have organized to protest the handling of third party traffic by so-called "Amateurs" who are offering services far beyond anything dreamed of by Alexander Graham.

In response, the FCC has issued a notice of proposed rulemaking to replace the Amateur Radio Service with the Commercial Citizens Telecomputing Service. The only licensing requirement is an Electronic Debit Card number (the government doesn't accept cash, checks or money orders any more). Welcome to the 21st Century.

Disclaimer: The article was inspired (?) by KR7L's piece on page 83 of the September 1988 QST. *Now the above is fiction. However, much of it is well within the realm of possibility. I may really retire as editor when computers can publish newsletters and read them too.* □

Mixing business with pleasure — Ann Wright, N6BOP and Hats for Hams

A familiar face among the exhibitors at many conventions is Anne Wright, N6BOP, who does a thriving business with her "Hats for Hams" putting call letters on caps and T-shirts. Here is her story.

Anne Wright, N6BOP, engages in an animated conversation at her Hats for Hams booth at the ARRL Southwest Division Convention in San Diego. Ted Tabak, K6SOZ was her able assistant.

I started this "at home" business after my OM, Ernie, WA6VUT, became a silent key in 1981. To supplement my small Social Security income, I decided (with encouragement from friends) to keep my motorhome to go to conventions and swap meets and put call letters on hats and T-shirts. This also would keep me busy, active and doing what I like best — meeting people, talking on the radio and traveling. I could not have done it without the help of now silent key Wendell Kent, NV6C, and my friends Bob, N6HOJ, and Bob, N6DZB, who travel with me to all the conventions and swap meets. It's nice to be able to pay bills by doing something I really enjoy!

Some of my experiences have involved long distance contacts with other countries, mainly because of my ad in **Worldradio**. One special contact came in 1985, when I received a letter from Jan and Honza (OK2BKH) Knotek, who live in Brao, Czechoslovakia. They had seen my ad in **Worldradio** and wanted to have some shirts and hats for Les and his son. They included sizes, call signs and the wording they wanted on the items, but said their big problem was an inability to obtain American dollars. Was there some way they could get these items?

Anne and Ted at work.

I made the shirts and hats and sent them off, telling them to accept them for good international relations. I told them the stamps on their letters would be payment enough.

It was the beginning of a great friendship. When the package arrived, I received a phone call from their city and we made a sked for 15M. Shortly after, I began receiving gifts of jewelry — a beautiful garnet necklace, pin, bracelets, earrings and many other gifts over a period of time.

One day in 1988 I received a phone call from the grocery store about two blocks from my home saying Jan and Henza were trying to locate me right here in Pomona. They had flown to Washington state to visit a missionary friend whom Henza talked to regularly on 15M. The ham friend had loaned them a car and they drove down to Pomona in two days.

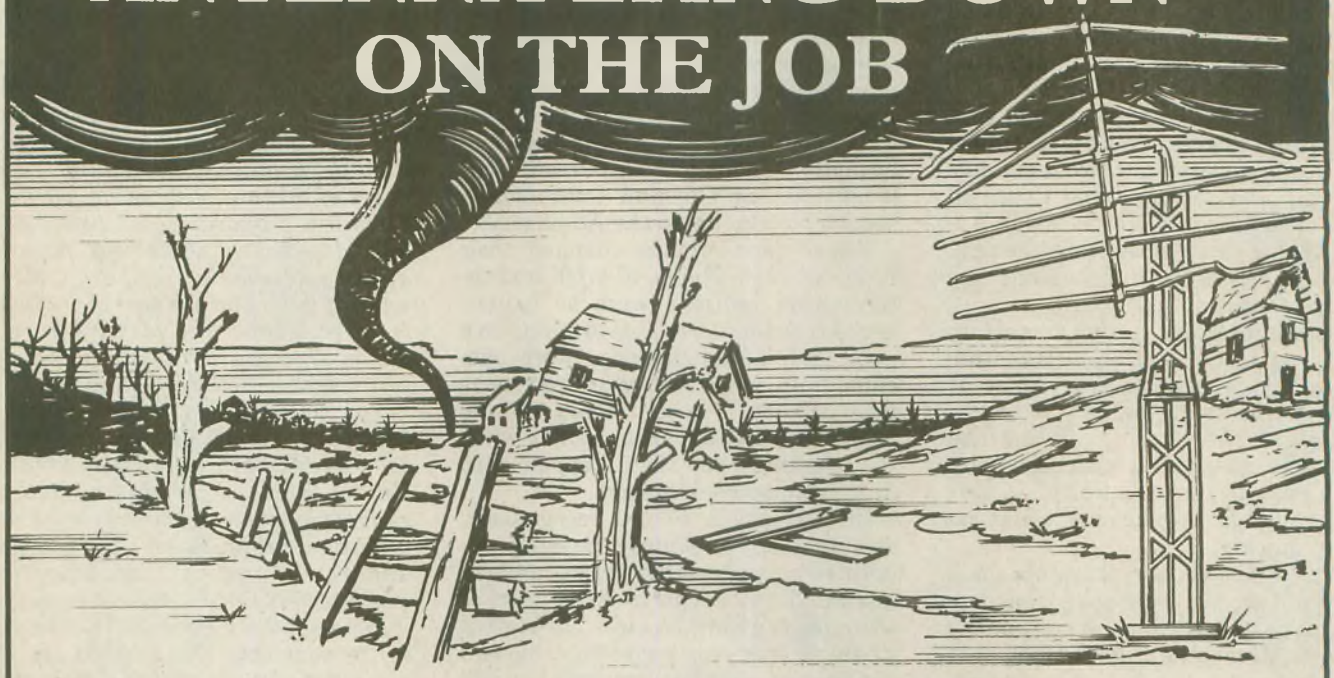
Their surprise visit to me brought seven days of beautiful friendship. It was delightful! We have kept in touch and have even exchanged phone calls from Pomona to Brao and back.

I've had contacts and requests for hats and shirts from England, Ireland, Germany and even the remote Sakhalin Island, USSR. This past year I received an order from a gentleman in Amalias, Greece. He sent American cash dollars but neglected to send a size. His call is SV3AQR — John. I have responded to him.

Recently I received a very interesting letter from a student who belongs to a ham club in Serdobok, Russia. He included a beautiful map similar to our American Amateur Radio map, with Russia in the center of the map rather than North America. It seems he found my name and address on the inside on one of his ham friend's hats, which his friend had received as a gift from someone here in the States. He wanted to know how he could obtain one of those beautiful hats. I made one for him with his call and name and sent it to him, saying the lovely map was payment enough for it.

I've had many contacts from people all over the world and it's fun to know that my hats are worn all over the world. Many have been gifts from hams in the US who are **Worldradio** readers. Thank you **Worldradio**! 73/88, Anne Wright, N6BOP □

YOU DON'T WANT YOUR ANTENNA LYING DOWN ON THE JOB



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H10-3	10m	6.46	1.79	$245
H6-6	6m	9.41	1.91	$250
H144-15H	2m	13.73	1.68	$225
H144-15V	2m	13.73	1.93	$225
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British Naval Intelligence during WW I

J.P. LeBLANC, VO1SK

At the outbreak of WW I, Sir Alfred Ewing was asked by the Director of the Naval Intelligence Division to examine intercepted German radio messages. These messages had been intercepted by the stations of the Marconi Company. Sir Alfred quickly realized that valuable intelligence could be obtained from reading German wireless signals.

A staff was recruited and Room 40 (later designated as ID 25) of the Admiralty was established, with the task of intercepting and breaking the enemy's messages and codes.

The first intercept station was set up in a Coast Guard station in Hunstanton, with the help of two Amateur Radio operators: Russel Clarke and B. Hippisley. The number of stations eventually grew to 14, with all having direct lines to the Admiralty. In this way, valuable intelligence could be passed quickly.

In 1914, the codebreakers obtained copies of German codebooks from captured or destroyed ships. A copy of the German Mercantile Signal Book was obtained from Australia, while the German Naval Signal Book was obtained from Russia. In April 1915, a copy of the German Diplomatic Code was obtained and another rich source of information had been secured. This made the task of breaking and reading coded traffic much easier.

By reading the German Naval traffic, Room 40 was able to give early warning to the British Grand Fleet about the movements of the German Fleet.

Early 1915 saw the establishment of the first Direction Finding (DF) station at Chelmsford. Soon, other stations were established along the coast of England and Ireland. Room 40 now had another important source of intelligence, as DF proved invaluable in locating German vessels and U-boats.

In May 1916 Room 40 was instrumental in relaying up-to-date information on the German High Seas Fleet during the Battle of Jutland. Unfortunately, the information was relayed without comments and proved confusing. This resulted in the information being doubted by the Admiralty and was not acted upon, to their detriment.

Although the Battle of Jutland was a victory for the Germans, they weren't eager to face the British Fleet. Therefore, the Germans began extensive submarine warfare on merchant shipping, which resulted in submarine operations becoming top priority for the staff of Room 40. Every scrap of information about the movements and intentions of German submarines became invaluable to the Admiralty.

When the Germans changed their codes in 1916, Room 40's DF and interception sections were so experienced that they were able to maintain a good flow of intelligence. More help came from divers who recovered codes from sunken U-boats. Room 40 was also able to give advance warning when the Germans set their Zeppelins to drop bombs over England.

In 1917 Room 40 was reorganized, and instead of simply passing decrypted messages, they were combined into intelligence reports. After years of studying the German Fleet, the staff of Room 40 was very knowledgeable and capable of making accurate intelligence assessments.

In early 1917 the cryptographers of Room 40 worked on what was to become the most important message solved in WW I: the Zimmermann Telegram. This message was sent by Zimmermann, the German Secretary of State for Foreign Affairs, to the German Minister in Mexico. Room 40's solution of the telegraph helped propel the United States into the First World War when it was shown to the president. Following is the text of this now famous telegram:

We intend to begin unrestricted submarine warfare on the first of February. We shall endeavour in spite of this to keep the United States neutral. In the event of this not succeeding, we make Mexico a proposal of alliance on the following basis: Make war together, generous financial support, and an understanding on our part that Mexico is to reconquer the lost territory in Texas, New Mexico, and Arizona. The settlement in detail is left to you.

You will inform the President (of Mexico) of the above most secretly as soon as the outbreak of war with the United States is certain and add the suggestion that he should on his own initiative, invite Japan to immediate adherence and at the same time mediate between Japan and ourselves.

Please call the President's attention to the fact that the unrestricted employment of our submarines now offers the prospect of compelling England to make peace within a few months. Acknowledge receipt.

Zimmermann

By 1918 the Germans were aware that their communications were being read and adopted methods of communication calculated to prevent the British from knowing or guessing the movements of their Fleet. But in early November, plain language messages were intercepted indicating that the German Fleet had mutinied. And so ended WW I.

An important achievement by Room 40 was that, both during and after WW I, intercepted traffic was used as evidence at trials of spies and saboteurs.

After the war it was estimated that from October 1914 to February 1919, Room 40 had intercepted and solved 15,000 German secret messages. Room 40 employed 800 wireless operators and 70 or 80 cryptographers and clerks. Room 40 was taken over by the Foreign Office and became Great Britain's main cryptoanalytic agency.

In 1939 the Foreign Office moved its Department of Communications to Bletchley Park, about 50 miles northwest of London. From here we go on to the Ultra Secret and a man called Intrepid, but that's another story. —*The Canadian Amateur Radio Magazine* □

Happy New Year !

Women in wireless

(continued from page 6)

serious. "Yes" was the answer.

Port authorities at Montreal were surprised to find that F. Blodgett was a YL, and checked with the captain of the Norwegian cargo ship *Mosdale* to learn if a woman was acceptable. Captain Sunde was desperate, and he agreed.

Fern proved to be a capable operator. Constant storms were the ship's lot, and Fern witnessed many horrors of torpedoing and their attendant tragedies.

In 1942 Fern married Captain Sunde and their honeymoon was spent at sea, in convoy. *Mosdale* was a lucky ship. She made 98 Atlantic crossings, of which Fern was aboard for 78. Fern retired from the sea after war's end to make her home in Norway. A book of her adventures, *Lucky Mosdale,* became a bestseller in Norway.

The second eastern Canada woman to take up the sea was Esther Crichton, of Halifax. She sailed aboard *M/S Narvik* in the Pacific area during the latter war years, and retired in early 1947.

The first western Canadian woman to receive her license was Ina Waller, of Kimberley, BC. She did not go to sea, but served in the Marine Room at VAI, the Pt. Grey Wireless Station, and as an interceptor operator there and at Victoria. A number of others earned their commercial tickets during the war years, and were mostly employed as interceptor operators at various DOT stations.

From western Canada there were three who sailed in wartime. Ola McLean of Vancouver and Alice House of Port Coquitlam graduated from Sprott Shaw School of Radio in 1944, determined to ship out, and succeeded later that year in an uneventful crossing of the Pacific. A brief report appeared that Ola and Alice had arrived safely in an Australian port aboard an Allied (not Canadian) tanker, after a voyage in which they were treated royally. The article stated that the two were prevented from signing on a Canadian ship by marine regulations in Canada.

Alice later served on the Norwegian tanker *Karsten Wang,* and in 1947 married Captain Olaf Hansen, who had been second officer of the same Norwegian tanker on which she had made her first voyage. Ola remained at sea for a number of years, her voyages taking her to most of the ports of the world.

The third western YL with wartime experience was Rosemary Byrom, of Victoria, who joined her first Norwegian ship in San Francisco and remained aboard for a year. Service on three more tankers followed, one of which sailed in the last convoy to cross the Atlantic before VE day. Rosemary retired in about 1947.

After VJ day women interceptor operators were released from government service and Anna Ozol secured a position aboard a Norwegian vessel and achieved the doubtful distinction of being one of the few women who had to send out an SOS. Happily, the vessel was able to make port without aid.

On leave in February 1947 Anna brought word that a Norwegian ship in San Francisco needed an operator. Within days Elizabeth King was fulfilling her longtime wish to ship out.

Elizabeth joined her first vessel and sailed across the Pacific to the Philippines, Orient and Australia, remaining aboard just over a year. After a lengthy holiday ashore, she shipped out again in another vessel, also sailing the Pacific routes. Elizabeth served until early in 1951, when she left the sea for good.

After Elizabeth, Norma Gomez and I quickly followed. Norma was assigned to a coastal vessel with primitive conditions and she retired six months later.

I was more fortunate, replacing Esther Crichton. I served four years, covering much of the world.

The only other Canadian woman who went to sea in those years was Lylie Smith. She shipped out in 1946. Prior to that she had been the first female radio operator hired by the Hudson's Bay Fur Trade Co. for their northern posts. Probably the longest at sea of any of the Canadian YLs, Lylie spent five years on the Far East routes and another five years sailing between the US, Europe and South America.

By the late 1940s and early '50s, Norwegian women were taking over more of the positions on their country's ships. The few Canadian YLs settled ashore and no others followed in their wake until 1970, when Dallas Bradshaw, from Victoria, BC, went to England for training, becoming the first woman operator to sail aboard a British ship.

Predominantly, it has been Scandinavian countries that have accepted women operators, mainly Norway and Sweden, and other countries, such as Denmark, Finland, Germany, Russia and Great Britain. The US started it. Although their numbers have not been as great as Scandinavia, American women have continued to serve since the latter war years in their merchant marine, Coast Guard and on Army transport and hospital ships.

A number of YL professionals are also Amateurs, with call signs many will recognize. VE7YL also had the call EP2ELA and YB0ADT.

There are also VK9NL, VR6KY, LA1OGA, DK5EJ/OH2SG, W6BDE and AC7V.

So, ship's operators may disappear, but Morse will be around for a long, long time; of that I am convinced. For many of us it is, and always will be, mysterious music that spans the globe — our other language. — *Australian Ladies ARA* □

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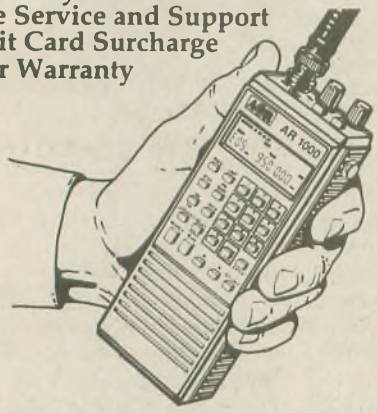

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- Delay, Hold Features.
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Speed:	20 ch/sec. scan. 40 ch/sec. search
IF:	561.225, 58.075, 455KHz or 10.7MHz
Increments:	5 to 955KHz selectable/ 5 or 12.5 steps.
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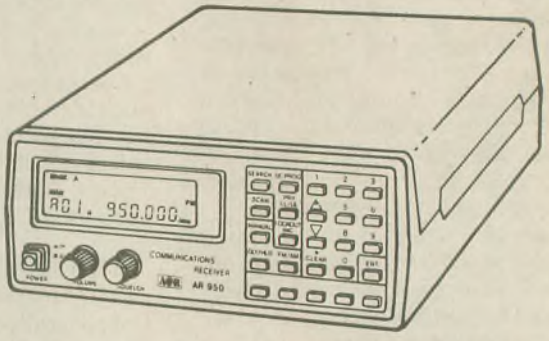
Power:	Input 9 - 13.8 V. DC
Antenna:	BNC
Display:	LCD
Dimensions:	6 7/8H x 1 3/4D x 2 1/2W. 12oz wt.

AR950 $239



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External Speaker with mobile mount.	MS100	$19.50
Extended Warranty. 2/3 yrs		$40/$55

Specifications:

Coverage:	27-54, 108-174, 406-512, 830-950MHz
Sensitivity:	.4uV Lo,Hi. .8uV Air. .5uV UHF. 1.0uV 800
Scan Speed:	15 ch/sec.
IF:	21.4MHz, 455KHz
Increments:	10,12.5,25,30
Audio:	1W
Power:	12.8VDC, 200MA
Antenna:	BNC
Display:	LCD w/backlight
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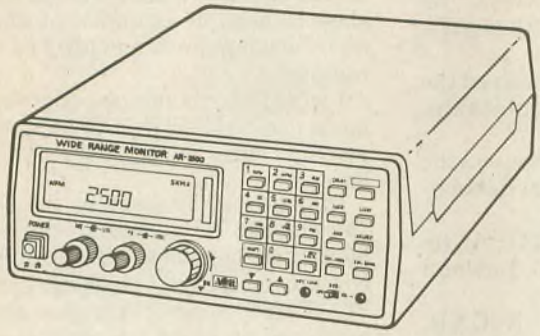

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Standard Features

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- 16 Search Banks.
- RS232 port built in.
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- One Year Limited Warranty.

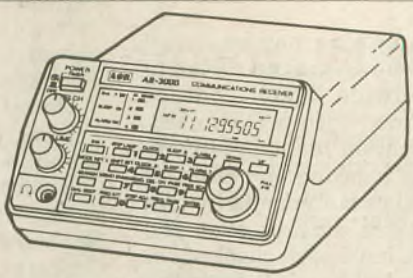
Options:

Earphone.	EP200	$2.00
External Speaker. Mobile Mount.	MS190	$19.50
Extended Warranty. 2/3 yrs.		$65/75
Mobile Mounting Bracket.	MM1	$14.90
RS232 Control Package (software & cable) offers spectrum display and database.	SCS2	$295.00

Specifications:

Coverage:	1 MHz - 1500MHz
Sensitivity:	.35uV NFM, 1.0uV WFM, 1.0AM/SSB/CW
Speed:	38 ch/sec. scan. 38 ch/sec. search
IF:	750.00, 45.0275, 5.5MHz 455KHz
Increments:	5,12,5,25 KHz
Audio:	1.2 Watts at 4 ohms
Power:	Input 13.8 V. DC 300mA
Antenna:	BNC
Display:	LCD, backlighted.
Dimensions:	2 1/4H x 5 5/8W x 6 1/2D Wt. 1lb.

AR3000 $995



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- AC adaptor/charger. DC power cord.
- Telescopic Antenna.

Options:

Earphone.	EP200	$2.00
External Speaker. Mobile Mount.	MS190	$19.50
Extended Warranty. 2/3 yrs.		$65/75
Mobile Mounting Bracket.	MM1	$14.90
RS232 Control Package (software & cable) offers spectrum display and database.	SCS3	$295.00

Specifications:

Coverage:	100KHz - 2036MHz
Sensitivity:	.35uV NFM, 1.0uV WFM, 1.0AM/SSB/CW
Speed:	20 ch/sec. scan. 20ch/sec. search
IF:	736.23, (352.23) (198.63) 45.0275, 455KHz
Increments:	50Hz and greater
Selectivity:	2.4Khz/-6db (SSB) 12KHz/-6db (NFM/AM)
Audio:	1.2 Watts at 4 ohms
Power:	Input 13.8 V. DC 500mA
Antenna:	BNC
Display:	LCD
Dimensions:	3 1/7H x 5 2/5W x 7 7/8D Wt. 2lb 10oz.

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AWARDS

ACDXA awards program

The ACDXA awards may be issued to any licensed Amateur Radio operator worldwide. Each contact must be confirmed with a QSL card, and each application must be accompanied by a list showing the dates of contacts, as well as statements by two licensed Amateurs stating that the necessary cards have been checked.

Contacts must all be made from the same country on any band or mode beginning January, 1985 if a specified requirement is not indicated in the rules. After receiving the basic award, only the necessary additional confirmations are required for a higher class or endorsement.

The certificates are available for a fee of 7 IRCs or 3 IRCs per endorsement. The cost of a plaque or trophy is 50 IRCs. In all cases the fee includes surface mail return postage. SCA and ACDXA supertrophies are free.

Available awards include the ACDXA, the All Soviet Nationalities Award (ASNA), the Soviet Cities Award (SCA), the Good Neighbor Award (GONA), the "Ninety Degree Line" award, the U-RTTY-Award and the ACDXA-Supertrophy.

Applications for any of these must be sent to the awards manager, ACDXA, P.O. Box 1, Barnaul, 656057 USSR. □

ARRL awards

The ARRL Foundation, Inc. is happy to announce the recipients of our 1990-91 academic scholarships.

Kurt D. Schwehr, N6XWB, received the ARRL Scholarship Honoring Barry Goldwater: $5,000.

Christopher C. Peters, KB4MRH, received the L. Phil and Alice J. Wicker Scholarship: $1,000.

Douglas M. Benish, N3CXB, received the You've Got A Friend In Pennsylvania Scholarship: $1,000.

Daniel C. Lawry, KA1PNE, received the Perry F. Hadlock Memorial Scholarship: $1,000.

Robert J. Inderbitzen, NQ1R, received the New England FEMARA Scholarship: $600.

Scott L. Young, N9FZS, received the Edmond A. Metzger Scholarship: $500.

Dennis P. Ward, KT8X, received the Edward A. Jaikins Memorial Scholarship: $500.

Gregory H. Laufman, N6GPA, received the Dr. James L. Lawson Memorial Scholarship: $500.

Christopher N. Hadden, NØGXB, received the Paul & Helen L. Grauer Scholarship: $500.

The ARRL Foundation, Inc., a not-for-profit educational and philanthropic organization that works in association with the American Radio Relay League, Inc., sponsors scholarships for licensed radio Amateurs currently enrolled in an accredited course of study beyond the high school level. Awards range from $500 to $5,000. Our next award season is: February 1991.

Send today for our scholarship package to: The ARRL Foundation, 225 Main Street, Newington, CT 06111. □

Help fight pollution!

GEORGE FRANKLIN, WØAV

It seems that just about every newspaper or magazine one picks up has something to say about the need for effective pollution control measures to prevent further contamination of the environment. TV newscasts show us horrible examples of what can occur when pollution is allowed to run rampant.

I would like to suggest one way that hams can do their part to support this worthy cause. Simply obey FCC regulations!

In a spring '89 issue of the *QCWA Journal*, K6CNB examines the issue of ham band pollution, "To Amplify Or Not To Amplify," pointing out that FCC Part 97 reads, "Amateur stations must use no more transmitter power than the minimum necessary to carry out the desired communications." Please note that "must" is the operative word.

Let's look at the numbers for just a minute. Suppose you are in contact on SSB and you give out a report of, say, S9 + 20dB on peaks and fading to S9. Assuming that the station with which you are in contact is transmitting with a power output of 1000W, the law-abiding operator thereof would reduce his power output to 100W (−10dB power ratio) and your S-meter reading would then drop to 10dB over S9. As you duly reported that fact, he would then reduce power to 10W output and still your S-meter would read S9.

Use of 1000W for the described conversation could accurately be described as POLLUTION OF THE HAM BANDS! Even in the bottom of the assumed 20dB fade you would still read over S5 (at the 6dB per S unit).

Would you like a more spectacular example? This time you hear a station at 30dB over S9; he reduces power from 1000W output to 1W output (yep, one miserable watt). Your S-meter now reads S9! Are you convinced?

A local pundit critical of those who use and advocate QRP (5W or less output) operation has said, "QRP operation is just an excuse for a poor signal."

I think a more timely statement is, "QRO (high power) operation is just an excuse for poor operating skills."

Just imagine how much more fun it would be to operate in ham bands without the splatter, overload and other interference caused by the (illegal) use of power far in excess of that required to maintaining good, solid communication. —*PHD News* □

STATION APPEARANCE

Win a one-year **Worldradio** *subscription! Submit photos and description of your shack to "Station Appearance." Entries are judged on neatness and accessibility, not monetary value.*

Don Hagler
K5CKQ

This month's winner, with his "now you see it, now you don't" shack, is Don Hagler, K5CKQ, of Lawton, OK. Following, he describes his layout.

The shack is located in the corner of the living room in a roll top desk. When closed, the books and a 2M rig on the top shelf do not really tip you off as to what the desk holds inside.

I ordered a pencil drawer front from the furniture factory to create the sliding tray front for the 30W amp in the knee hole. The left top drawer front was changed to a cabinet door and a Murch tuner was put in the drawer slot.

The right top drawer was reworked to hold the keyboard for the computer. An auxiliary power supply is in the bottom file drawer, along with a blower. The back of the drawer was removed.

Other equipment includes a Kenwood TS120 with remote VFO, PS 30 power supply, CDE rotor head, Dentron meter, bencher paddle, Heath keyer, Auteck filter, TS700 2M rig and TRS 80 computer for RTTY. □

Amateur "Hi"

Ever had a funny or strange experience with Amateur Radio, either on or off the air? If so, type it up (or print neatly) and send it to us for consideration in our monthly AMATEUR "HI" contest. You could win a free year's subscription to **Worldradio***!*

This month's winner is Ralph H. Yodice, WA2SRO, from Shokan, NY. Ahh the memories.

It was mid-June of 1961 and I had my new Novice license, WV2SRO; an NC109; a Viking Adventurer and a homebrew 80M dipole.

What I didn't have was the nerve to send my first CQ, but after an hour or more of deliberating, I decided to jump in.

My CQ was immediately answered by WA2JXE. His signal was real strong and clear. A pleasure to copy.

Although I was at a loss for words, I managed to give him my name, QTH, rig and WX, but I was puzzled as to what RST I should give him. I quickly decided on a 229, which I repeated four times, and asked him how did he ever get that type of a signal.

He returned with a short part of the riot act and told me to take my rig, with the antenna, go to the nearest high building and jump off.

One year later I answered his CQ. Both RSTs were 599+ and we talked for over a half hour. He didn't remember me until I told him and we had a good laugh about it.

It has been many years since that day, and I often look back to the fine Amateurs of all ages I have met along the way. I am filled with pride, joy and bit of sadness. □

DXus infectUS

TONY SPINO, KA1HBV

I was walking quickly through the kitchen on my way to the shack. It was only the second day of my foray into the *world of* RTTY and I really wanted to get to the radio to play — I mean operate.

As I passed through, I noticed one of my wife's nursing magazines lying on the table. The printing on the cover stopped me in my tracks. "Danger When the Dx Is Viral."

I had always heard and read about those who have been bitten by the DX bug and, if the truth be known, I myself was bitten two years after I was first licensed, in 1981. I still suffer from the malady, although I hardly notice any problems; my XYL, however, frequently reminds me that I still display the symptoms of a fully entrenched infection — late to meals, odd hours of operation, a muscular right index finger from ceaseless tuning, an absence from the most used living areas of the house, etc. She is a nurse, so I guess she knows what she's talking about. But I digress.

I had always figured that the "DX Bug" was an expression, a metaphor or simile or hyperbole or one of those other literary terms. I was certainly red-faced, for here, right on my own kitchen table, next to my second grader's school papers and my teenager's high school schedule, was evidence in the form of a nationally recognized publication dedicated to the nursing profession that the DX Bug is real and has been identified as a virus.

Could there be worse news — a virus? A bacteria would have been better; doctors have a vast arsenal which will fight bacterial infections and new drugs to kill them are always being developed as they grow resistant to the old standbys.

I'm no medical wiz, but I've read enough about viri (is that the plural of virus or is it viruses?) to know that it is exceedingly difficult to kill the little buggers. Something about their constantly changing their skins (kind of like a politician) so our bodily defenses can't get a lock on them to destroy them. Beyond that they are hedonistic little critters and reproduce almost as fast as the CW from the fist of an old-timer at the controls of a Vibroplex.

Of course this explains a lot about DXers: the years they spend chasing it; the uncounted hours in front of a rig; it is, quite obviously, a very potent virus. Also plain to see is the fact that the infection of the DX Bug has reached epidemic proportions if it has made the cover of a widely circulated nursing magazine. There must be many Amateurs nationwide who have visited their doctors and been hospitalized because of the virus.

I was so astounded by all this that I forgot about getting on RTTY; DXing even faded momentarily from my mind. The word swelled in my brain and blotted out all else — virus; DXing was viral in orgin and DXers are "made" by a virus; they are not so marked from their birth nor do they choose in later years to take up the mantle of DX. It's all because of an honest to goodness, medically recognized infection. This would also explain why all Amateurs aren't DXers; clearly some of our numbers are resistant to this strain of virus.

With trembling hand I reached for the magazine; I had to know what was printed about Amateurs who chase DX — about me.

Well, don't bother to rush out and buy the magazine so you can read all about this. The article, rather lengthy at that (it was, after all, the cover story), was so full of "... ism," "... atosiss," "... myacins" and words that ran on for five or six letters before you even encountered a vowel, that I was totally confused (kind of like the first time you read through the assembly manual of any antenna which has more than one element or one that uses more than 19 inches of wire).

I read it again, just like I do with antenna manuals, but unlike radiator directions, it still didn't make sense. When I put the magazine down, I was shaking no less than when I picked it up.

You might wonder why I didn't ask my XYL, the nurse, for a translation. If you had seen all those "... ism" and unpronouncable words, you probably would feel as I did. I didn't want to know what was wrong with me, with us. The prognosis, as medicos are wont to say, might not be too pleasant. I can conjure up all sorts of distasteful circumstances, like being able to work stations only within a 500 mile radius. When you live on the East Coast, that area would include an awful lot of empty water (Why is it that Pacific stations never call "CQ East Coast, East Coast Only," or say into the pileup, "QRX fellas, I want to listen for W1s only."!) How about being limited to 100W on 20M — you know, QRP. Or, horror of horrors, having that guy at the club with whom you have a "friendly?" competition over country count finally has more worked than you? You know he'll tell everyone about it.

Progress

This is the age of progress,
I'm sure you'll all agree;
An age of high technology
We all can plainly see.

Gone are the hoops and spinning tops,
Now kids with fancy names
Sit pressing keyboard buttons
As they play computer games.

Cowboys and Indians are out,
They all play spacemen now;
Know more about a spaceship
Than they do about a cow.

We don't have money any more,
Just little bits of card,
And remembering all those numbers
Is a feat that's really hard.

We've gone through the atomic age,
And the age of "nuclear fishin' "
Where there's no sign of a rod and line,
And they don't know what they're missing.

We've all seen the computer age,
With discs that flop and flip.
Now the wheel has turned full circle,
It's the age of "fische" and "chip"!

—Joy Collis, VK2EBX, Australian Ladies ARA □

Need I go on? I didn't want to know about viral DX.

Now Amateur Radio is, after all, a hobby and should bring happiness and enjoyment to those engaged in it. So I thought and thought (after I worked four new ones on RTTY) and did realize that there is an up side to all of this stuff. First and most important, DX-ing is an honest to goodness sickness caused by a virus. This should go a long way in soothing all the XYLs of DXers when they arrive at the table late or hop out of bed at 3:15 a.m. Right? After all, we now know that chasing DX is beyond our control, it is not a matter of choice; DXers are merely responding to a biological imperative.

All sorts of other conditions common to DXers — sprained tuning fingers, dislocated shoulders from rapid reaching to rotator controls, stubbed digits from stabbing at the linear standby/on switch and shattered eardrums from "dinner is ready, NOW" — should be covered under our medical insurance. Support groups are sure to spring up all over the country; perhaps the national headquarters will have a toll free telephone number like 1-800-DX VIRUS. Would groups for the XYLs and harmonics of DXers be far behind? How about 1-800 DADDY DX for their telephone number?

However it turns out, it can't be all bad; I guess its best to take it day by day and keep your daily dose of RF within reasonable limits. You know — twitch twitch — I still haven't even heard that ZS8 . . .

Author's Note: DX is the medical profession's Q signal for "diagnosis."

Product Review

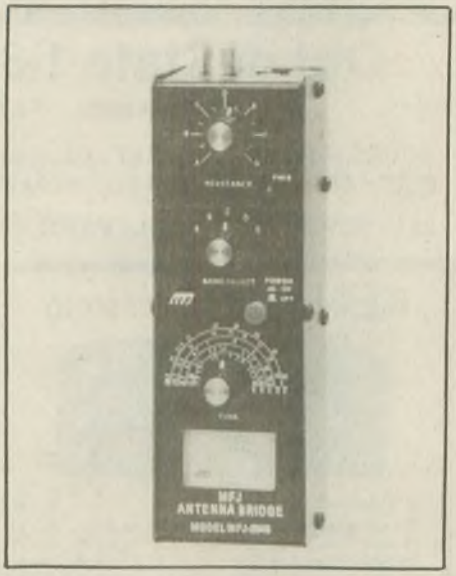
MFJ-204B antenna bridge

RICHARD ARLAND, K7YHA

Antenna noise bridges have been around for quite some time. However, the innovative folks at MFJ Enterprises (P.O. Box 494, Mississippi State, MS 39762) have refined the design by adding an L-C tuned circuit and a metering circuit and packaging the unit into an ultra-portable antenna bridge which can be taken directly to the antenna for measurements!

No longer are you chained to the ham shack desk, having to run from the radio out to the antenna site, trim the antenna, and then run back into the shack for more measurements. With the MFJ model 204B antenna bridge it is possible to set up the initial parameters inside the shack, then take the tuneable noise bridge out to the antenna site and do the actual pruning without all the trips to and from the shack. Neat, huh?

The MFJ-204B is tuneable from 160-10M (actual tuning range is 1.5 through 35 MHz) in five range. The Resistance scale is calibrated via a calibration chart on the back of the bridge to insure accurate resistance measurements. The 204B measures 7¾×2⅜×2⅞ inches and has an internal 9V battery (not supplied) to furnish power for the bridge circuitry. Front panel controls are resistance, band select, power on/off, tune, and the meter. An SO-239 coaxial connector for connecting the bridge to the antenna circuit under test, external power connector and an RCA jack for frequency counter output are included on the top of the 204B.



Using the MFJ-204B is very simple. Ample instructions are included with the unit, but in a nutshell, all you have to do is select the proper band via the band select control, couple the 204B to your main station receiver (or transceiver) and dial up the frequency on the receiver where you want the antenna to resonate. Then adjust the tune control until the oscillator can be heard in the receiver. Now you have the proper parameters set into the 204B. Take the unit outside to the antenna under test and couple it directly to the feedpoint via a male-to-male PL-259 adaptor or use an even half wavelength of coaxial cable (cut to the proper operating frequency). Turn the resistance control until a maximum dip on the meter can be achieved. This indicates the feedpoint impedance of the antenna at that particular frequency. Next comes the pruning of the antenna elements to obtain the exact operating frequency, selected on the 204B. Cut small amounts off of each end of the antenna and recheck the resistance readings often. In short order, you will have pruned the antenna to the proper operating frequency, all without running back and forth between the antenna test site and the shack to check SWR. It was found that a portable frequency counter coupled to the 204B helped immensely in setting the proper frequency on the antenna bridge.

The MFJ-204B can be used to make up phasing lines and impedance matching coaxial stubs. The 204B can also be used to pre-set the station transmatch (minimizing on-the-air tune up time), quickly prune antennas at a Field Day site, properly adjust the driven element on a beam or quad while on the tower, adjust antennas for the proper resonant frequency and basically make life much easier for the radio Amateur, SW Listener or DXer who wants to maximize the old antenna farm. My only regret is that MFJ does not put out a similar product for the VHF/UHF operator. It sure would be nice to take a VHF/UHF version of the 204B up on the tower and set up the phased arrays as quick as one-two-three.

How much does one of these little jewels cost? Retail price for the MFJ-204B is $89.95, making it a very good value for money. Since I have used the MFJ-204B over the last several months, I have come to depend upon it for all of my HF antenna research and development. The 204B is a flexible antenna impedance bridge, and it sure takes the work out of antenna adjustment. □

HAMVENTION 40th ANNUAL 1952 to 1991

DAYTON Hamvention®

April 26, 27, 28, 1991

Early Reservation Information

• General Chairman, Dave Grubb, KC8CF

• Asst. General Chairman, Ross Brown, WA8DQH

• Giant 3 day flea market • Exhibits
• License exams • Free bus service

Flea market tickets and grand banquet tickets are limited. Place your reservations early, please.

Flea Market Tickets
A maximum of 3 spaces per person (non-transferable). Tickets (valid all 3 days) will be sold IN ADVANCE ONLY. No spaces sold at gate. Vendors MUST order registration ticket when ordering flea market spaces.

Special Awards
Nominations are requested for "Radio Amateur of the Year," "Special Achievement" and "Technical Achievement" awards. Contact: Hamvention Awards Chairman, Box 964, Dayton, OH 45401.

License Exams
Novice thru Extra exams scheduled Saturday and Sunday by appointment only. Send FCC form 610 (Aug. 1985 or later) - with requested elements shown at top of form, copy of present license and check for prevailing ARRL rates (payable to ARRL/VEC) to: Exam Registration, 8830 Windbluff Point, Dayton, OH 45458

1991 Deadlines
Award Nominations: March 1
License Exams: March 26
Advance Registration and banquet:
USA - April 4 Canada - March 31
Flea Market Space:
Spaces will be allocated by the Hamvention committee from all orders received prior to February 1. Express Mail *NOT* necessary! Notification of space assignment will be mailed by March 15, 1991. Checks will not be deposited until after the selection process is complete.

Information
General Information: (513) 454-1456
or, Box 964, Dayton, OH 45401
Lodging Information: (513) 223-2612
(No Reservations By Phone)
Flea Market Information: (513) 767-1107

Lodging
Please write to **Lodging, Dayton Hamvention, Chamber Plaza, 5th & Main Streets, Dayton, OH 45402** or refer to our 1990 Hamvention program for lodging information which includes a listing of hotel/motels located in the areas surrounding Dayton.

HAMVENTION is sponsored by the Dayton Amateur Radio Association Inc.

Advance Registration Form

Dayton Hamvention 1991
Reservation Deadline – USA-April 4, Canada-March 31
Flea Market Reservation Deadline: February 1

Enclose check or money order for amount indicated and send a **self addressed stamped** (#10) envelope.

Please Type or Print your Name and Address clearly.

	How Many		
Admission (valid all 3 days)	_____	@ $10.50*	$_____
Grand Banquet	_____	@ $22.00**	$_____
Alt. Act. Luncheon (Saturday)	_____	@ $8.00	$_____
(Sunday)	_____	@ $8.00	$_____
Flea Market (Max. 3 spaces)	_____	$25/1 space $50/2 adjacent $150/3 adjacent	$_____
Admission ticket must be ordered with flea market tickets			
* $13.00 at door ** $24.00 after April 24th, if available		**Total**	$ _____

QC7W 1 2 3 4

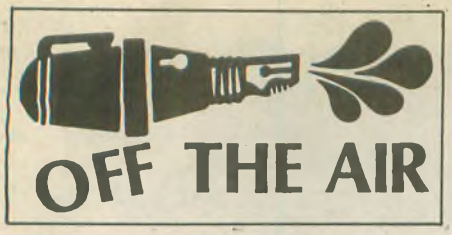
Name _____

Address _____

City _____ State _____ Zip _____

Make checks payable to – **Dayton HAMVENTION**

Mail to – **Dayton Hamvention**
Box 1446
Dayton, OH 45401



To amplify or not to amplify

Though I have been fairly active on the HF bands since late 1957, I feel like a new kid on the block when I QSO some of the old-timers with 50 to 60 years of experience in Amateur Radio.

My first lesson with regard to amplification came from one of those old-timers. I was in QSO with a station in Gunnison, CO, using the 80M Novice subband and had told the operator about my plans for a 400W amplifier as soon as I upgraded to General class.

He laid a great piece of wisdom on me which has served me well to this day. He said, "Take that amplifier money and invest it in a better antenna system." I no longer remember his name or his call, but I certainly remember his advice.

In 1957 the Novice class license gave us permission to operate with a maximum power of only 75W DC input to the final/s. Within the next couple of years I was using a 2-element home brew cubical quad on 20, 15 and 10M.

With this antenna at a height of about 19M, I was getting 599 reports from Europe and Africa, which is usually not too easy from the Southern California area. Of course I was running more than twice the power (180W DC input). And I was giving 589 reports to stations in Europe that were only running 20W to a dipole.

In 1962 my application for membership in the DX Century Club was approved and I was given Certificate #5999. This award was given for having had QSOs with Amateurs in at least 100 different countries. Those were all QSOs consisting of much more than an exchange of two or three digit signal reports.

I have never used more than 100W output power. Yet I can QSO with over 95 percent of the stations that I can hear with a readability of 3 or better.

A power increase from 100W to 1500W represents an increase of only about two S units on most state-of-the-art Amateur receivers, with all other factors being equal. In some modes this is not only desirable, but necessary for reliable communications.

Part 97 of the FCC rules with all amendments through Nov. 1, 1987, authorizes, "Amateur stations *must* use *no more* transmitter power than the *minimum* necessary to carry out the desired communications." It also states that this minimum *may not exceed* 1500W (PEP).

I have received lectures for failure to identify often enough from Amateurs who at the time were using as much as 1000W when 50W would have been ample to carry on the QSO. I sometimes question the validity of using the 1500W legal limit as being "necessary to carry on the desired communication," when the desired communication consists of only an exchange of two or three digit signal reports and nothing more (i.e. DX pileups). The DX station could do much to eliminate this type of operation if it would let it be known that it plans to answer only the weakest signal in the pileup.

Recently my CQ on 40M in Covina, CA, was answered by a station near Portland, OR, a distance of approximately 800 miles (1,285 km). The signal strength from this station was about 30 decibels over S9 on my meter.

It was obvious that my full power (100W) was not needed by my station in order to QSO. I went back to him with my power cut to minimum (about 4W on my ouput meter). He came back with report from my station of 57.

A report of 57 indicates perfectly readable and moderately strong signals. After I convinced the operator of the Oregon station that he didn't need his amplifier, his signals were still S9 (extremely strong signals).

Due to unstable conditions he asked me to QRO, so I increased my output to 40W. After giving him my thoughts about excessive power being inconsistent with FCC rules, we had a nice 30 minute QSO with both of us running about 40W output.

By keeping power levels down, more QSOs can be effective without causing interference to neighboring countries, states, counties, etc.

Many of us can remember a time not too long ago when the FCC tooks some very drastic action in order to reduce the use of unauthorized power levels in the 11M band. If we are not capable of regulating ourselves in the use of legal power limits, it is conceivable that this sort of action could be used again.

It is proposed here that the Amateur fraternity should be every bit as diligent about the power level rules as it is about out of band operation, identification, license exam cheating, purity of emissions, etc.

ROBERT STRACK, K6CNB
Covina, CA □

Exemplary youth

Amateur Radio of yesterday is a memory. Amateur Radio of today is passing by almost too quickly to recognize. Amateur Radio of tomorrow is for the youth of today to carry on.

Grandpas and grandmas tell the kids about it and share it. Moms and Pops WORK with the kids.

Todd Tittle, KF7LX, is an example of three generations still going strong. At the last election he was elected secretary/treasurer of the Western Country Cousin's net. There were 1,838 members at that time and he was the youngest, at 15½ years of age. Most of the members are the "old-timers." The election was close and there were many unfavorable comments made by the losers who thought a person had to be on the verge of senility to handle the job. One such comment was, "I don't trust young people." Our answer to that was, "Maybe we had better parents than they had."

After seven months Todd has done an outstanding job. We would like to give him the recognition he deserves and send a message to some of the other old-time nets: "Welcome and encourage the young people or soon your nets will be as dead as you are already acting." And a great big pat on the back for those progressive Western Country Cousins who voted for the future.

LEE DEDRICKSON, WB7EZI
Bandon, OR □

Saved by the hand-held

I am 62 and retired. Once in awhile, to make extra money, a company here who supplies provisions to ships asks me to take a truckload of supplies out of town to a ship at another port.

Just a few days before I was called to make my latest trip, I acquired, through a trade deal, a new Standard C111 2M hand-held. Since it was a new "toy," I decided to take it with me on my trip from Coos Bay, OR, to Eureka, CA.

I found the dock where the ship was located at about 5 p.m. Unloading the provisions and doing the paper work took about two hours, so at about 7 p.m. I was finished with the ship.

I headed out of the log yard to the entrance, only to find that it was locked. The nearby office was also locked and no pay phone was on the property.

I remembered my new hand-held and dug it out of my overnight bag. I checked frequencies and on the third try found a repeater.

I called out to anyone and a woman in Arcata, CA, answered me. I told her my problem and asked if she would call the Eureka Police Department and get assistance for me. She did this and about 20 minutes later a policeman showed up and said he had already called the owner of this log yard and help was on the way.

I called this woman back (I forgot her call sign) and told her all was well. Just as I was talking to her, my batteries went dead. (I had left the ones in the unit that I got with it and had no idea how long they had been used before I got it.) About another 20 minutes went by and then the owner of the place came and unlocked the gate so I and my truck could get out. If I had not had my hand-held with me, I would have had to stay there in the truck all night, or maybe slept on the ship . . . a rust-bucket type. I didn't care to do that.

BUDDY R. HINKE, WA6LFJ
North Bend, OR □

Amateur Radio operator

I am an Amateur Radio operator. Only recently have I begun to understand the full meaning of that phrase.

To some this would only mean that I am a person who operates an Amateur Radio, but I would strongly object to such a surface definition. I do operate a radio designed to transmit and receive on allocated Amateur radio frequencies, but there is much more to it than that.

I have spent many hours learning everything from standard operating procedure, to radio theory, to Morse code. Even the FCC would join me in objecting to my being called a mere operator of Amateur Radio equipment!

Being called an Amateur Radio operator also distinguishes me from being a commercial radio operator. Not that there is anything wrong with operating a broadcast radio station. It is just that they operate as a course of business and I do not. While being an Amateur Radio operator has been quite rewarding to me, I admit none of those rewards have been financial.

Something I have recently come across has helped me focus on what being an Amateur Radio operator is all about. It has to do with the root meaning of the word "Amateur." This word is of Latin origin and means (of all things) "lover!" I guess you would say an "Amateur" Radio operator is a person who loves radio.

Now here is a definition I can sink my teeth into! I love radio. I love the very idea of listening to and conversing with an individual in some distant place. I love the thrill of snagging the "rare one" when working DX. I love the satisfaction of running a phone patch or handling formal traffic. I love the gratification of making an uncooperative antenna begin to resonate on the frequency I have chosen. I love an old fashioned ragchew with an old friend or a new one.

As I said, "I love radio!"

You might say that an Amateur is a person who does something "for the love of it." When it comes to radio, that's me!

G.R. "Scott" CUNDIFF, N5ASD
Vivian, LA □

Only in Amateur Radio

TERENCE JONES, NZ8C

Only in Amateur Radio can you . . .

. . . talk to kings as you would your next door neighbor

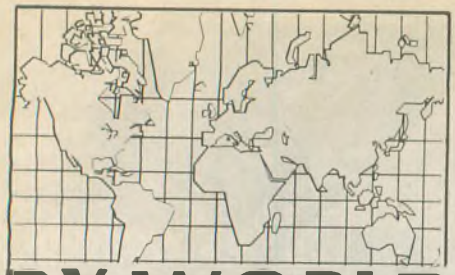
. . . talk to astronauts and cosmonauts as they travel through space

. . . help bring relief to a country in the midst of a disaster

. . . have nearly a million instant friends

. . . help bring the dream of world peace closer.

All without leaving home! — *Allen County Amateur Radio Technical Society, Ft. Wayne, IN* □



DX WORLD

John F.W. Minke III, N6JM
6230 Rio Bonito Drive Carmichael, CA 95608

Activities Calendar

19-20 Jan.	MRASZ Hungarian DX Contest (CW)
26-27 Jan.	UBA/REF French Contest (CW)
02-03 Feb.	RSGB 7.0 MHz Contest (SSB)
09-10 Feb.	VERON PACC Contest
09-10 Feb.	RSGB First 1.8 MHz Contest (CW)
09-10 Feb.	SRJ Yugoslavian DX Contest (CW)
16-17 Feb.	RSGB 7.0 MHz Contest (CW)
16-17 Feb.	ARRL International DX Contest (CW)
23-24 Feb.	UBA/REF French Contest (SSB)

For details on contest activity, consult your favorite contest column. We have no advance notice on some of the above and are basing the dates on those from previous years.

W100N

The following DXers were awarded Worldradio's Worked 100 Nations Award recently: #381, Everette C. Faulkner, AA6MP, 9/17/90; and #382, Ronnie L. Houston, WX5X, 10/11/90.

Zaire has been a new one for many a deserving DXer, thanks to the efforts of this gentleman. Meet Gustav Jagero, SM5DIC, who has been operating as 9Q5TE from Kinshasa since August 1989. Check around 14.190 MHz between 0500 and 0615 UTC for Gus. A technical engineer with ABB (Asea Brown Boveri), Gus is working with the power systems in Zaire. Gus prefers SSB, but will switch to CW upon request.

Most DXpedition operations are not real elaborate setups. This past summer Wolf, DL2SCQ, and his XYL Ann, DL1SCQ, along with Peter, DL6DK, were off to the Shetland Islands to hand out contacts to the deserving.

Gustav Jagero, SM5DIC. ***(Photo courtesy of SM0BFJ)***

Their most enjoyable contact was when they were called by HF0POL located in the South Shetland Islands. The Shetland Islands is not a separate DXCC county and counts only as Scotland. However, the island group does count towards the IOTA program.

Malpelo Island (HK0)

The DXpedition to Malpelo Island showed as planned, except a day earlier. The team made the difficult climb to the top of the rock for the benefit of the deserving DXers to the north.

As usual, the operating techniques were a split-frequency operation with the operators at times listening in a segment up to 30 kHz wide. The so-called police action was at a minimum during the times we were listening. One of these types threw me with his babbling when I thought I heard HK0TU coming back to me, and I had to try again, as the operator was not

DLISCQ's operating position in the Shetland Islands was nothing more than a van with a 100W transceiver loaded into a vertical antenna.

giving a second chance for us to respond.

We do not have the final QSO count as of this writing. Those of you who worked the DXpedition may send your QSL requests via KH3DDD.

Mongolia (JT)

The Mongolian Radio Sports Federation (MRSF) has applied for membership in IARU. This society, which was established in 1962, reports that there are 39 radio Amateurs with call signs in their country. The application will be voted upon by the IARU membership the Spring of 1991.

Several calls have been reported during the month of October, with much of the activity on 15M. Look for JT1BR, who has been found often on CW between 21.007 and 21.036 MHz at the beginning of the day, UTC. JT1CO has also been found on both modes; try 21.016 or 21.315 MHz after 0100 UTC.

Other calls reported recently from this country include the following:

JT1AA	14.165 MHz	1200 UTC
JT1BG	14.225 MHz	1300 UTC
JT1BS	21.225 MHz	0030 UTC
JT1BV	21.220 MHz	0330 UTC
JT1CD	21.008 MHz	0145 UTC
JT1CQ	14.165 MHz	1330 UTC
JT1KAA	21.011 MHz	0145 UTC
JT1T	28.439 MHz	1000 UTC
JT4AA	14.226 MHz	1115 UTC
JT5AA	14.226 MHz	1230 UTC
JT9AA	14.010 MHz	0630 UTC

That JT1KAA is a club station. All the other calls are individual stations, including some from rare call areas.

South Sandwich and South Georgia (VP8)

The November DXpedition to the South Sandwich and the South Georgia islands has been postponed, though all equipment and suplies were on hand, due to the Middle East crisis. The crisis has elevated the cost of fuel over $30,000.

The DXpedition has not been rescheduled for 1991, but all funds received from contributors will remain in the fund for this DXpedition only.

IOTA

The interest in island hunting has been on the increase recently. Here is a sample of what has been on the bands:

AS-22	Bear Island		4K4QQ
		10.108 MHz	1830 UTC
EU-08	Inner Hebrides Islands		GM4EHB
		21.260 MHz	1500 UTC
EU-38	West Frisian Islands		PA0MDG
		21.262 MHz	1645 UTC
EU-96	Turku group		OH1QY
		14.259 MHz	1600 UTC
NA-06	Victoria Island		VE8CS
		28.428 MHz	1530 UTC
NA-14	Grand Manan Group		VE1ANJ
		21.260 MHz	1500 UTC
NA-19	Kodiak Island		KL7AF
		3.767 MHz	0500 UTC
NA-34	Egmont Key		KO4J
		14.260 MHz	0300 UTC
OC-09	Koror Island		KC6CQ
		14.026 MHz	1430 UTC
OC-98	Pakapuka Island		ZK1TW
		14.260 MHz	0545 UTC
SA-26	Santa Catarina Island		ZY0NS
		28.519 MHz	2245 UTC
SA-43	Ilas Guaitecas		F2JD/CE7
		14.260 MHz	0400 UTC

The Egmont Key DXpedition by KO4J was during the weekend of October 20 and 21. They were active on or near the IOTA frequencies. For you island hunters, always check these frequencies: 14.260, 21.260 and 28.460 MHz. During the November 10-11 weekend they were on Dry Tortugas (NA-79), busy giving the IOTA types a new one.

If you worked ZY0NS during the World Wide DX SSB Contest, you grabbed Santa Catarina Island. ZW0JR was also active from there.

If you reside on an offshore island, why not get in on the fun and be in demand? Such islands include Long Island, New York, Martha's Vineyard, Massachusetts and Vancouver Island, British Columbia.

DXCC update

Effective Oct. 3, 1990, the German Democratic Republic (East Germany), has been deleted from the DXCC country list. Contacts made with Y2 and Y9 calls will count as the Federal Republic of Germany after this date. Contacts made with West Germany on or after Sept. 17, 1973 will be credited as the Federal Republic of Germany.

If that last sentence is confusing to you new DXers, the reason is that prior to that date, there was only one Germany for DXCC purposes. East Germany, at that time, used the DM or DT prefix, while the West Germans used the same prefixes as they are presently using. After the deletion of Germany as a DXCC country and the addition of two new Germanys, East and West, the East Germans eventually were assigned the Y2 and Y9 prefixes, to the prefix hunter's delight. For overall count in DXCC status, older DXers now have three DXCC countries for Germany.

Effective May 22, 1990, the People's Democratic Republic of Yemen (70) and the Yemen Arab Republic (4W) are deleted. In their place a new country, Yemen (70), is added, effective that date.

March 1, 1991, has been set as the earliest date for submission of cards for credit for the new Yemen. Do not submit cards for credit prior to that date. Honor Roll members who have credit with Yemen since May 22, 1990, will be able to update their credits during the month of March 1991, prior to publication of the next Honor Roll listing.

DXCC desk backlog

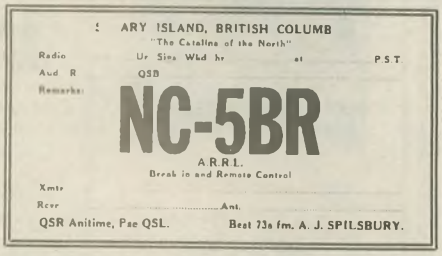
With the increasing interest in the DXCC awards program the last few years plus the addition of new countries to the list, the ARRL has been faced with a large backlog of applications. The Headquarters staff has organized a special effort to speed up the processing.

Applying knowledge from the banking industry, where large volumes of transactions must be processed quickly and accurately, ARRL's business manager, Barry Shelley, temporarily has taken charge of DXCC application processing. Tom Hogerty, KC1J, is assisting him in organizing a special task force of Headquarters staff, including but not limited to, Don Search, W3AZD, and the rest of the DXCC desk. John Lindholm, W1XX, is handling member inquiries on DXCC matters, so Don Search is free to share his special knowledge of DXCC with the other processors. Executive Vice President David Sumner, K1ZZ, has temporarily assumed John Lindholm's other managerial duties.

To give you an idea of the amount of work there is at the DXCC desk, there was a backlog of 1946 new applications and 3382 endorsements as of October 29. During the following two weeks, 122 new applications and 292 endorsements were processed with the addition of 34 new applications and 83 endorsements added to the mountain of work to be done. If you have been waiting a long time for your paperwork to be processed, perhaps now you can understand why. I submitted a 10M endorsement a long time ago. My error was that I failed to include a card acknowledging receipt. For all I know it could have gotten lost in the mail. Hopefully, it is somewhere in that big pile. Let my error be your gain. As of Friday, Nov. 9, they were processing new applications received on June 4 and endorsements received on May 14.

Antique QSL department

We go back many years for this one, which dates back to the 1920s. NC5BR was the call of Jim Spilsbury,



VE7BR. Jim had resided during his younger years on Savary Island in the north end of the Strait of Georgia, which runs between the mainland and Vancouver Island.

Jim has had a very interesting past. He was the founder of Queen Charlotte Airlines, which was Canada's third largest air carrier when it merged with Pacific Western Airlines in 1955. You might want to read *Spilsbury's Coast*, written by Jim. Jim was the banquet speaker at the 1988 Northwest DX Convention in Vancouver.

The next QSL card, which was submitted by John Davis, W4FZW, has an interesting story. John writes the

following: "When the Japanese invaded Guam in December 1941, a Navy radioman escaped into the back country and survived until the end of the war. He became known as "The Ghost of Guam" and received considerable publicity at the time.

"A few years later, George Tweed was presented as the Mystery Guest on the TV show, *What's My Line*, as the Ghost of Guam."

George Tweed was also KB6GJX of Agana, Guam, whom John had worked several times prior to the outbreak of World War II. This particular contact was with KB6GJX during the summer of 1940. Many thanks to John for the card and the interesting story to go with it.

QSL routes

A35DM	—ON4QM	DA0FRG	—DF4VS
A35XK	—WA6ZEF	EX7M	—UL7MW
AH3C	—K9UIY	F2JD/CE6	—F6AJA
AY9F	—LU9FHF	F2JD/CE7	—F6AJA
C9QL	—YASME	FK8GJ	—F6CXJ
CN2CW	—F2CW	FM5DN	—N3ADL
CN2JF	—WA0RJY	FO8AA	—N6VO
CN2JO	—F1MJ	FO0SSJ	—K8JRK
CN2MH	—F6GKQ	FR0P	—F6BFH
CN2TT	—F6IMS	FT4WC	—F6GVH
CN2TU	—F1NYQ	FT5X	—FD6ITD
CN8YP	—F6FYP	FY5FP	—ON4ZD
CN8VV	—F6EEM	GP6UW	—G3XTT
CR2UW	—CT4UW	GU6GW	—G3XTT
CT3BH	—OH2BH	H71A	—SM0KCR
CT3EU	—G3PFS	HI8A	—JA5DQH
CV2V	—CX4CB		*(See Note 1)*
CY9CF	—FP5DX	HC2G	—HC2CG
D68GA	—N6ZV	HD1T	—W2KF

HX6DMX	—REF	VP2MEU	—K8UE
IJ8MAS	—IK8ISH	VP5R	—AA4NC
J37DX	—W8KKF	VP5VMA	—WD8LLD
J37V	—K8CV	VP5VWB	—WD8RIH
J6DX	—W8UMD	VP8CDJ	—GM4KLO
JW7SI	—LA7SI	VQ9CQ	—KA6V
JW8XM	—LA8XM	VQ9HW	—KA1CRP
JW9XG	—LA9XG	VQ9SS	(See Note 6)
K9EL/VS6	—K9EL	XE2PDY	—N6LHN
KC6CQ	—VE3JDO	XM3XN	—VE3XN
KC6MM	—VE3JDO	XX9KA	—KC9V
KH0AM	—JE1CKA	YJ1A	—OH3GZ
KP2A	—W3HNK	YJ0A	—OH1RY
L8H	—LU4HH	YJ0AMH	—KF7PG
LA4X	—LA5NM	YM5KA	—HA0NNN
LP3F	—LU6FAZ	YU90AA	—YU2AA
LS6T	—LU6ETB	YW6W	—YV6CAX
LZ1V	—LZ1KZM	YZ7Z	—YU4EXA
P40T	—K4PI	YZ90S	—YU2AKL
PJ1B	—K2SB	ZB2/	
R3R	—RA3RQT	WA6CDR	—WA6CDR
RM2M/		ZD8Z	—W6CF
UA9OJ	(See Note 2)	ZD9CO	—W4FRU
RM3M/		ZF2JI	—KG6AR
UA9OF	(See Note 3)	ZK1XX	—TF3CW
RM7M/		ZK3F	—JA1WHG
RW9OWW	(See Note 2)	ZK3KM	—JR3OIB
RS3A	—RW3AH	ZL0AIC	—HB9AAA
SV5A	—SV1AIH	ZM2K	—ZL2NX
T30F	—OH6ZS	ZY2GCW/P	—PY2MT
TA5KA	—HA0NNN	ZY21M/P	—PY2MT
TA0W	—LA5NM	ZY2ORF/P	—PY2MT
TE10E	—TI4SU	ZY0NS	—PP5SZ
TI75S	—TI4SU	ZZ5SC	—PP5SZ
TP2CE	—F6FQK	ZZ0NS	—PP5SZ
	(See Note 4)	3D2AA	—SM2BFJ
TP2HA	(See Note 5)	4U1ITU	—OK3LZ
TY1DX	—1K6FHG		(See Note 7)
UF0O/		4U45UN	—NA2K
UF6DZ	—UB5PS	5H3OH/P	—OH2QQ
UH8EA	—W5BWA	5W1JF	—WB6OKK
UM2Q/		5W1JJ	—K6VNX
UA9OJ	(See Note 2)	5W1TD	—W6MKB
UM3Q/		5W1XD	—W6XD
UA9OF	(See Note 3)	6D2X	—KD5GY
UM7Q/		6I2A	—XE2AQ
RW9OWW	(See Note 2)	7Z1AB	—KN2N
V31KF	—W5ASP		(See Note 8)
V47KP	—K2DOX	8P9X	—K4FJ
V47NS	—W9NSZ	9H8C	—PA0VAJ
V47NXX	—KB2XR	9J2FR	—I2ZZU
V63BD	—VE3JDO	9M2HG	—JA1ARJ
V63DX	—JA7HMZ	9M6NA	—JE1JKI
VP2EC	—N5AU	9M6OO	—N2OO

C56/G4ODV —Brian Coyne, P.O. Box 100, Truro, Cornwall, ENGLAND

CE0ZZZ —Pedro A. Barroso, P.O Box 13312, Santiago, CHILE

CN0A —French DX Foundation, P.O. Box 88, F-35170 Bruz, FRANCE

FW1FM —Michel Feillet, P.O. Box 20, Sigave, Futuna, WALLIS and FUTUNA ISLANDS, via France

HC8A —Association DX EX, P.O. Box DX, Cuenca, ECUADOR

PA6LIB —P.O. Box 137, NL-4570 AC Axel, NETHERLANDS

YS0YS —P.O. Box 517, San Salvador, EL SALVADOR

Notes

1. You may also QSL direct to Akito Nagi, P.O. Box 1163, Santo Domingo, Dominican Republic. To JA5DQH via the bureau is slow.
2. QSL these operations via M.V. Golovko, P.O. Box 173, 630 034 Novosibirsk, USSR.
3. QSL these operations via Yuri Rumyantsev, P.O. Box 71, 630 008 Novosibirsk, USSR.
4. This route applies for the IPA Contest the first weekend of November 1990.
5. Contacts for the period November 16-18 go to F6FSQ; November 23-25 to F6FQK.
6. For contacts made during the period September 27 through October 8 QSL via KA6V. Earlier contacts should be sent via N7JJQ or KF7UZ.
7. This route applies for the period October 24 to 28 only. You may also QSL via OK3JW.
8. Use 1990 Callbook Address.

Many thanks to the following contributors: DL6DK, SM0BFJ, W6TUR, The Salt City DX Association (KB2G), International Amateur Radio Union (W4RA), American Radio Relay League, *The DX Magazine* (VP2ML), *Long Skip*

DX Prediction — January 1991

Maximum Usable Frequency from West Coast, Central U.S., and East Coast *(courtesy of Engineering Systems Incorporated, Box 939, Vienna, VA 22180).*

The numbers listed in each section are the average Maximum Usable Frequencies (MUF) in MHz for contacting five major areas of the world centered on Africa-Kenya/Nairobi, Asia-Japan/Tokyo, Oceania-Australia/Melbourne, Europe-Germany/Frankfurt, and South America-Brazil/Rio De Janeiro. Chance of contact as determined by path loss is indicated as bold MUF for good, plain MUF for fair, and in parentheses for poor. UTC in hours.

JANUARY 1991 WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	(13)	14	17	(11)	17
12	(13)	14	17	(11)	16
14	(13)	13	16	(11)	32
16	(25)	14	25	(17)	37
18	28	14	(20)	(13)	39
20	29	(15)	(25)	(12)	40
22	25	27	31	(11)	38
24	22	29	35	(11)	33
2	17	24	33	11	22
4	16	17	22	11	20
6	(14)	16	20	11	18
8	(14)	15	18	11	17

CENTRAL USA

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	(17)	11	(17)	11	17
10	(16)	11	17	(11)	16
12	(16)	11	16	(11)	24
14	32	14	30	20	34
16	36	(14)	25	18	37
18	37	(13)	(20)	(13)	39
20	30	(13)	(25)	(12)	40
22	25	23	31	(11)	36
24	21	(19)	32	11	26
2	20	(14)	22	11	21
4	18	(12)	20	11	19
6	(17)	(12)	(18)	11	18

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	16	11	(17)	11	17
9	16	11	17	11	17
11	29	11	16	18	24
13	36	12	31	22	34
15	38	(11)	28	21	37
17	38	(11)	24	19	39
19	34	(11)	(22)	13	40
21	28	(18)	(29)	12	37
23	21	(18)	32	12	28
1	19	(13)	22	11	22
3	18	(12)	(19)	11	20
5	17	(12)	(18)	11	18

DX World

(VE3IPR), *DX News Sheet* (G4DYO), *The Long Island DX Bulletin* (W2IYX), *Inside DX* (N2AU), *QRZ DX* (W5KNE) and *The DX Bulletin* (VP2ML).

There sure was much activity during the October World Wide DX Contest. What amazed me were the many inexperienced DXers calling with partial calls. Many contesters are using computer programs to assist their logging, and these "last two letters" only delay the action. The FCC gave you all complete calls. To borrow a quote from *The K1EA Contest Logging Program* instruction manual, "Their brains have been damaged by too many list operations."

Hope you all have a pleasant Christmas and a Happy New Year. Very 73 de John, N6JM. □

Kid hams in Alaska

This is Jack Bitzer, NL7SX, and his family. Jack upgraded last year to General Class after a long absence from Amateur Radio. In May of 1990 his children sat for a W5YI testing session here in Ketchikan, Alaska; they all passed with high scores and did especially well in the CW portion of the exam.

Jack was first licensed as WA2KFB, then WB6RKX. He left Amateur Radio and returned in 1985 as WL7-BHF. He regained his General license in 1989 through the W5YI testing program here in Ketchikan.

During the winter months Jack and his wife, Helen, tutored the children after school.

Their son, Bryan, WL7BXQ, gave me the pleasure of being his first contact.

Elizabeth, WL7BXR, had her first QSO on May 8, 1990 with Jonathan, KB5LXA on 29.310 MHz. Jonathan, 14 years old, was calling from Baton Rouge, Louisiana; this was his first contact with Alaska. Later on, Jonathan's instructor, KA5YSY, tuned in and was impressed to hear his student talking with Alaska.

Sarah, WL7BXS, had her first QSO with Trevor, VK4AFL, who was calling from Brisbane, Australia. The contact, on 10M, was made on May 27, 1990.

I received my Novice ticket in the mail on Jan. 12, 1988. After a year of study and upgrades, I received my Extra Class ticket on Jan. 17, 1989. Being one of the three Extra Class license holders in this part of Alaska, I established the W5YI testing here in Ketchikan.

Jack Bitzer, now NL7SX, was my first contact ever as a Novice, —*Information submitted by Gene Wyman, AL7KH.* □

Less is more

FRED GRANT, AA4NG

Last fall the Field Day results in *QST* showed that K5DX in Texas made the top 1989 score, an astounding 25,000 points. Moreover, K5DX used simultaneously 23 transmitters in the 300M circle. I wrote Clarence Sharp, K5DX, to discover how. (W4PRO scored about 6,000 points with three transmitters.)

The answer is low power and saturated bands. They ran 5W battery power and occupied all bands from 1.6 to 1200 MHz (I count 15 bands). With eight of 15 bands of both CW and SB, it's easy to count to 23.

They had the usual extras: satellite, RTTY and packet. Satellite on 5W? From experience I know that reaching OSCAR-13 near apogee with 5W takes a King Kong antenna. With eight HF bands on both CW and SB, they had a lot of wire in the air.

Consider this: Their 23 five watters put out 115 W total, which is 4dB down on our 300W total. One of our three stations equals their total within a dB. Truly more with less. —*SPARKGAP*

Being one of the first three people in 1967 to see the earth as viewed by the ATS-1 satellite in synchronous orbit 22,300 miles up is but one of the thrilling experiences felt by John Swancara, WA6LOD, during his many years as a senior engineer working with satellite development at Hughes Aircraft Company Space and Communications.

"Yes, we were astounded," recalls John. "The NASA man present exclaimed 'By God, the earth *is* round!' as we pulled off the Polaroid 4x5 prints from the equipment used with the ATS-1 satellite. We were at Rosman, North Carolina." John was the spacecraft's technical representative to NASA.

He had joined Hughes in 1957 after serving time in the Air Force as well as working with Convair, a subsidiary of General Dynamics. Hughes "forced him" to take an assignment as a field engineer to Tyndall Air Force Base in Panama City, Florida. There he earned his first ticket as WA4GJO. "In those days, the prefix WA4 was so new, some hams thought I was DX! But they had a great club and we were active with a hurricane net as well as chasing new countries." John's fascination with DX continues to this day with 301 countries confirmed toward the coveted Honor Roll.

John was to meet lots of DX operators in person over the years as well as active American hams at the various tracking stations where he was sent, such as Australia (VK2BEN), South Africa, Nigeria, Italy, Thule in Greenland, Hawaii "and other exotic places." He worked with the satellite control systems at these customers' locations, teaching their engineers procedure, operation and maintenance of the equipment. He assisted in the design and development of the complex gear which grew in sophistication with each launch.

"Incidentally, that ATS-1 had a transponder similar to those of our OSCARs, operating above and below our 2M band. Although it was launched so long ago (1967), this same transponder is still being used in message and data transmissions for our people in Antarctica. In 1969, we built up a complete satellite ground station from "surplus" 2M FM radios. Worked great, with a 7-element yagi!"

John Swancara, WA6LOD

John grows enthusiastic as he speaks of it. "It's a real unsung hero of worldwide VHF communications as well as to and from the South Pole area. You see, it allows the hams to augment traffic with personal phone patches. This gives them more time on the HF bands, as the satellites can carry on the primary communications."

Another "first" was when he was the first one to talk via Intelsat 3 from Nigeria to the United States. But his actual first satellite was the "Syncom," the world's first synchronous orbit bird. From then on he was deeply involved in almost all of the Hughes-designed commercial satellites. The ATS-1 was part of a series of five which tested various communications techniques for satellites. The ATS-1 and 3 had spin-scan cameras which made those first actual photographs of the earth.

"Now we have, instead of a 110 lb. satellite with a single TV channel, super-sized satellites with many multiband TV channels and direct broadcasts to homes, of course. I've lost count of the active communications spacecraft in orbit."

What a difference they have made to the world — the public has come to expect instant news from all areas of the earth. "However," John points out, "we hams know how many things can go wrong in new and very sophisticated electronics." But the general public has jumped to the conclusion that everything should work every time!

John was the Hughes engineer *on all* of the Weststar and Palapa (Indonesia) launches. "On one shuttle launch, carrying a two-satellite payload, their rocket motors failed after launch from the shuttle. Remarkably, they were later recovered by another shuttle, refurbished and re-launched for the customers."

John also remembers contributing to the Voyager project. "The Voyager round-the-world flight by Jeana Yeager and Dick Rutan was exciting for all the Amateurs who helped with the aircraft-to-ground world wide communications in 1986. I thoroughly enjoyed being part of it."

He retired a few months ago and now has more time for another interest: The Museum of Flying at Santa Monica Airport, a treasure collection of aircraft and aviation history. He serves as a docent and aircraft electronics technician, explaining the many flying craft such as the Douglas AD Sky Raider, the P 51 Mustang and two famous world-record holders which are two P 51s, highly modified. They are named "Dago Red" and "Stiletto." The museum, about two years old, is non-profit and open to the public. John's working on a video presentation of the collection. He's also a popular speaker about this, satellites and The Voyager round-the-world flight.

John has confirmed 301 countries.

John's wife Sheila enjoys hearing about his DX triumphs and accompanying him to other countries, hamfests and air shows. He hasn't found time to restore his OSCAR antenna which was severely damaged in a high wind, but he likes RTTY, SSB, CW QSOs and of course, DX. If you happen to contact WA6LOD and are curious about satellites, John's certainly the one to ask! □

QUARTER CENTURY WIRELESS ASSOCIATION INC.

Guest Editor - The Owl
Who gives a hoot

National convention

The QCWA National convention in Kansas City drew a near record attendance. 191 people were registered! Many came early and stayed late to take in the many attractions of Kansas City and to participate in a full schedule of convention activities. The open board meeting on Friday afternoon had a packed house. Actions of the earlier, formal board meetings were reported and many questions and comments from the members were discussed. Results of this meeting were then considered by the board before final decisions were formulated.

Two new directors were welcomed to the board. Milton Chaffee, W1EFW, was appointed to fill the vacancy created by the resignation of Neil Foster, KC4MJ; and Walter Brink, W3WPY, was named to replace Stuart Meyer, W2GHK, who found it necessary to resign because of business pressures.

President Dannals announced a full re-alignment of the standing committees structure. Some responsibilities have been combined and others separated. All committees will be chaired by a board member but members-at-large may now be included on some of the committees. This is in accordance with Dannals' goal of encouraging much greater membership participation in the administrative affairs of QCWA. He is anxious to hear from anyone who has an interest in serving on any of the new standing committees.

QCWA museum to be established

One important development was plans for establishing a QCWA museum in Omaha, Nebraska. The Western Heritage Museum offered to provide approximately 15,000 square feet of space for such an exhibit and gave a slide presentation displaying the facilities that would be available. The board quickly acted to accept the Omaha museum offer and appointed Leo Meyerson, W0GFQ to be the QCWA representative and local contact. A national QCWA museum is now well on its way.

Honor awards

Retiring Director Esther Given, W6BDE, was honored with a special service award for her outstanding dedication during her seven years on the board (see last month's column). Esther's contributions have included her editing of the QCWA column in **Worldradio** for almost seven years.

Esther Given, W6BDE

Presidential awards

President Harry Dannals, W2HD, announced that presidential awards are to be presented to four outstanding people: Herb Gleed, W6FQ; Dave Bell, W6AQ; Armin Meyer, W3ACE; and Noel Eaton, VE3CJ.

There were no recommendations for other honor awards at this meeting. This is disappointing. There are many people who have made significant contributions to QCWA and more of them should be recognized. Nominations for all QCWA awards are eagerly sought by the awards committee. Send your recommendations to Bob Rickey, NF6P, Chairman, publicity and awards committee.

"Top gun recruiter" award

A program to promote recruiting new members into QCWA is being initiated this year. It is planned that this will be an annual affair. Points will be awarded to members for each new recruit they bring in during the three month period, April 1 thru June 30, 1991. The membership application must show the name and call of the recruiter in the section marked "proposed by." The member earning the most recruiting points will receive a plaque and will have his picture in the *QCWA Journal*. Watch the *Journal* for full details on this new program.

Golden anniversary awards

Some 1800 members are eligible for the 50 Year Golden Anniversary Award but few people have sent in requests for the certificate. Automatic issuance of these certificates is impractical but they will be sent to any eligible member who will simply drop a note to Headquarters saying that they would like to receive the award. Chapters may even request the certificates for their members. It is a very impressive looking certificate which you should be proud to display. If you are eligible, ask for it.

Audio cassettes for the blind

An increasing number of people are requesting the audio cassettes which provide the sight-impaired with a recording of highlights from the *QCWA Journal*. The tapes are free. As long as the recipient returns old tapes, new ones will continue to be supplied. If you know of anyone who might benefit from this program, encourage them to write to QCWA Membership Services, Tape Coordinator Blanche Randles, W4GXZ.

1991 convention

Members of the convention committee are doing a great job of promoting the 1991 convention in Canton, Ohio. It promises to be an outstanding convention. Start making your plans now to attend this great event next fall. □

Happy
New Year !

Visit Your Local
RADIO CLUB

For information on how to get your club listed in "Visit Your Radio Club," plus receive many other benefits, write to Club Liaison, Worldradio, 2120-28th Street, Sacramento, CA 95818.

ALABAMA

Montgomery Amateur Radio Club (W4AP). Alabama State Trooper Dist. Office. Intersection of Coliseum Blvd. & Federal Dr. Fred Springall, KB4EGH, (205) 288-5831. Meets 3rd Mon./monthly, 7:00 p.m.

ALASKA

Arctic Amateur Radio Club. Geophysical Institute West Ridge U of A, P.O. Box 81389, College, AK 99708. 1st Fri./monthly, 7:30 p.m.

ARIZONA

Cochise Amateur Radio Assn. Meets 1st Mon./monthly, 7:30 p.m. Located 3 mi. East of Sierra Vista and 3 mi. South of HWY 90 on Moson Rd., Sierra Vista, AZ. Net each Thur. at 7 p.m. on 146.16/76. Further info call Rich (602) 458-3928.

Tucson Repeater Assoc., P.O. Box 40371, Tucson, AZ 85717-0371. 2nd Sat./monthly, 7:15 p.m., Pima Co. Sheriff Bldg., 1750 E. Benson Hwy. Net Thurs. 7:30 p.m. 146.22/82 (146.88-, 147.08-, 448.550-, & 145.15 Packet).

Western Arizona Radio Club. Meets 2nd & 4th Thurs./monthly, 7:30 p.m., First Baptist Church, 1700 Palma Rd., Bullhead City, AZ. Net Tues. 7 p.m. on 147.12+600. Info call Dave Adams, W6DRM, (602) 758-5171.

CALIFORNIA

Amador County Amateur Radio Club. P.O. Box 1094, Pine Grove, CA 95665. Senior Citizens Center, Jackson, CA. Meets: first Thur./monthly, 7:30 p.m. WA6WIY Rptr., 146.835, 146.235. Net Tues. 7:30 p.m.

Amateur Radio Club of El Cajon, (WA6BGS). P.O. Box 50, El Cajon, CA 92022. Meets 2nd Thur./monthly, 7:30 p.m. at Buck Knives, 1900 Weld Ave., El Cajon, CA. Club Rptr. 147.675 (-); Nets Sat. & Wed. 7 p.m. on 147.570 simplex. Info (619) 698-6644.

Associated Radio Amateurs of Long Beach, W6RO. P.O. Box 7493, Long Beach, CA 90807. Meets: 1st Fri./monthly, 7:00 p.m. Signal Hill Recreation Hall, 1708 E. Hill St., Signal Hill, CA.

Butte Amateur Radio Club. Meets 1st Fri./monthly, Loma Vista School, 8:00 p.m. Marigold and East Avenue, Chico, CA. For info KE6EP or KB6COH, 893-5208.

Contra Costa Communications Club WD6EZC/R. P.O. Box 661, San Pablo, CA 94806. Meets 2nd Sun. at 9:00 a.m. Hickory Post Restaurant/Lucky Lanes. For info call Don K6DPQ, (415) 222-2449.

East Bay Amateur Radio Club. P.O. Box 1393, El Cerrito, CA 94530. Meets: 2nd Fri./monthly 8 p.m., Northbrae Community Church, 941 The Alameda, Berkeley. Nets: Slow CW, Wed., 8 p.m., 21.115; SSB, Wed., 9 p.m., 28.395; UHF, Tues., 7:30 p.m., 444.450. Info, Gordon Firestein, KC6JAE, (415) 524-1484.

The Electronic Museum ARC. Meets 1st Fri./monthly, 7:30 p.m., Electronic Museum at Foothill College, Los Altos, CA 94022. Call-in 145.27/144.670.

Escondido Amateur Radio Society (E.A.R.S.). Meets 4th Thurs./monthly, 7:30 p.m., New Life in Christ Church, 300 N. Broadway, Escondido, CA 92025. Info Net Sundays, 8:00 p.m., 146.88 (-) or 743-4212.

Fresno Amateur Radio Club, Inc. P.O. Box 783, Fresno, CA 93712. Meets 2nd Fri./monthly, 8:00 p.m., Manchester School, 2307 E. Dakota, Fresno, CA. W6TO/R 146.34/94.

Fullerton Radio Club, Inc. W6ULI. P.O. Box 545, Fullerton, CA 92632. Meets: 3rd Wed./monthly, 7:30 p.m., Sr. Citizens Center, 340 W. Common Wealth, Fullerton. Net: ea. Tue., 8 p.m. 147.495 simplex. Info, Gracie Hastings, N6FSL (714) 990-9203.

Golden Empire Amateur Radio Society (VEC). P.O. Box 508, Chico, CA 95927. Club call W6RHC, Repeater 146.25/85. Meets: 3rd Fri./monthly, 8 p.m. at 1528 Esplanade, Room 110B, Chico.

Hilltop Amateur Mastertie System (HAMS). Informal mtgs. weekly/Mon. 5 p.m. at Shakey's Pizza, 12924 Washington Blvd., Mar Vista, CA, except 3rd Mon. Call for location. Info, N6FD 213/823-0767.

Kern River Valley Amateur Radio Club. P.O. Box 2611, Lake Isabella, CA 93240. Meets 4th Sat./monthly at 4 p.m. (Pot Luck). Veteran's Hall, Lake Isabella WB6ODZ Rptr. 224.50 down 1.6 low-level, 144.50 simplex.

Livermore Amateur Radio Klub, (LARK). Meets 3rd Sat./monthly, 9:30 a.m., City Council Chamber, 3575 Pacific Ave., Livermore, CA. Net Mon. 1900 on 147.12+. For info: LARK, 859 Chippewa Wy., Livermore, CA 94550.

Marin Amateur Radio Club (MARC) W6SG. Box 1231, San Rafael, CA 94901. Meets 1st Fri./8 p.m.; MARC Clubhouse Bldg. 549, HAFB, Novato, CA (415) 883-9789 (Summer exceptions; contact Pete N6IYU, 924-1578). Sun. AM Club at Red Cross, San Rafael.

Monterey Park Amateur Radio Club (MPARC), K6GIP. P.O. Box 403, Monterey Park, CA 91754-0403. Meets 2nd Thurs./monthly, 7:30 p.m., Community Rm.—City Hall, 320 W. Newmark, Monterey Park. Nets: Tues. 7 p.m. 147.48 Simplex — 7:30 p.m. 28.385 MHz. Info: John Duce, N6EDX (818) 280-7052.

Moreno Valley Amateur Radio Assoc. P.O. Box 7642 Moreno Valley, CA 92303. Meets 4th Mon./monthly 7 p.m., Park & Rec. Bldg., 13671 Frederick Ave. Net: Tues. 8 p.m. 146.655- (PL 1A) & 224.460-. Info: Larry KA6GND (714) 656-1643.

North Hills Radio Club. P.O. Box 41635, Sacramento, CA 95841. 3rd Tue./monthly, 7:30 p.m., Carmichael Elks Lodge, 5631 Cypress Ave., Carmichael, CA. Net 145.19 Thur. at 8:00 p.m.

North Shores ARC. (619) 272-1409 So. Clairemont Recreation Center, 3605 Clairemont Dr., San Diego, CA. 1st Tue./monthly, 7:30 p.m.

Orange County Amateur Radio Club. Meets 3rd Fri./monthly, 7:30 p.m., Mercury Savings & Loan, 1895 Irvine Blvd. (4th becomes Irvine), Tustin, CA 92680. Net each Wed., 9 p.m., 146.55 Simplex.

Radio Amateur Mobile Society. P.O. Box 214091, Sacramento, CA 95821-10091. Meets 2nd Tue./monthly, 7:30 p.m., Carmichael Elks Lodge, 5631 Cypress Ave., Carmichael, CA. Net Saturday a.m., 224.84 at 8:30 & 146.79 at 9:00.

River City A.R.C.S. Meets: 1st Tue./monthly, 7 p.m. SMUD Bldg., Room B & C, Elkhorn & Don Julio, Sacramento, CA. For info: (916) 483-3293.

Riverside County Amateur Radio Assoc. c/o County Emergency Services Div., 4080 Lemon St., Ste. 8, Riverside, CA 92501. Meets: 2nd Thur./monthly, 7:30 p.m., Riverside County Office of Ed., 3958 12th St. Nets: Mon., 7:15 p.m., 222.860/224.46 and 7:30 p.m., 146.28/88. Info, call Steve Rathbone, KF6ZH, (714) 687-7793.

Sacramento Amateur Radio Club. Contact: Gary Bryant, KB6KZZ, (916) 646-1171. Meets Sacramento Blood Bank, 32nd St. & Stockton Blvd., Sacramento, CA, 2nd Wednesday/monthly, 7 p.m. Info net every noon on Rptr. W6AK/R 146.910.

Sacramento "Old Timers" Ham Radio Brkfst. Club and Sacramento Valley Chapter #169 QCWA (Quarter Century Wireless Assn.). Meets 2nd Wed./monthly, 8 a.m., Lyon's Restaurant, 1000 Howe Ave. For info contact Paul Wolf, W6RLP (916) 331-1830.

San Gabriel Valley ARC. P.O. Box 88, Monrovia, CA 91017-0088. Meets 1st Tues./monthly, 7:30 p.m. (except Dec.) at Bowling Green Clubhouse, 405 S. Santa Anita Ave., Arcadia, CA 91006. W6QFK, Rptr. 147.165/765.

Santa Clara County Amateur Radio Assoc. (SCCARA) W6UW & W6UU. P.O. Box 6, San Jose, CA 95103-0006. (408) 249-6909. Meets: 2nd Mon/monthly, 7:30 p.m. at Agnews Developmental Center Aud., corner of Circle Dr. & Palm Dr., Santa Clara. Net all other Mon., 7:30 p.m. W6UU/R 146.385+ PL 100.0 / 442.425+ PL 107.2

Santa Clara Valley Rptr. Society (SCVRS). P.O. Box 2085, Sunnyvale, CA 94087. (408) 247-2877. 146.76 (-600 kHz), 224.26 (-1.6 MHz), 444.60 (+5 MHz). 2 meter/220 net Mon. 9 p.m. Mtgs.-3rd Fri.

Shasta Cascade Amateur Radio Society (SCARS) P.O. Box 664, Anderson, CA 96007. Meets: 3rd Wed./monthly, 7 p.m. at the C.D.F. Conf. Rm., Grape St., near Parkview Ave., Redding, CA. Net 146.64, Wed., 8 p.m.

Sierra Foothills Amateur Radio Club. P.O. Box 3262, Auburn, CA 95604. Meets: 2nd Fri./monthly at Auburn Fire Station, 226 Sacramento St., Auburn, CA. Nets 7:30 p.m. Tue. 28.443 MHz, Thur. 145.43 MHz link with 223.86 MHz.

Simi Settlers Amateur Radio Club. P.O. Box 3035, Simi Valley, CA 93063. Meets: 2nd Thur./monthly, 7:30 p.m., at Seventh-Day Adventist Church, 1636 Sinaloa, Simi Valley. Rptr. 147.93/33.

Southern California Amateur Transmitting Society, SCATS, WB6LRU. P.O. Box 1770, Covina, CA 91722. Meets 1st Mon./monthly, Community Presbyterian Church, 540 E. Vine St., West Covina, CA. Net, Sun., 7 p.m. 147.765-, W6QFK/R. Classes. Contact: Pat McNulty, N6GXZ (714) 622-8315.

Southern California Six Meter Club. P.O. Box 10441, Fullerton, CA 92635. USB Net Tue., 8 p.m., 50.150 and 8:30 p.m., 28.400. FM Rpt. Net Wed., 7 p.m., 52.18/98 and Thur., 8 p.m., 52.28/88. FM Smplx call freq. 50.300.

Southern Humboldt Amateur Radio Club, (SHARC). P.O. Box 701, Redway, CA 95560-0701. Meets 4th Mon./monthly. 8 p.m. SHARC Clubhouse, Garberville. Rptr. 146.19/79. Info (707) 923-2373.

Stanislaus Amateur Radio Assoc. (SARA). P.O. Box 4601, Modesto, CA 95352. Stanislaus Co. Administration Bldg., 12th & H Streets, 3rd Tues./monthly, 7:30 p.m. 145.39 MHz WD6EJF, 223.68 MHz.

The Trinity County ARC. P.O. Box 228, Weaverville, CA 96093. Meets 2nd Wed./monthly, at the CD Hall in Weaverville, 7:30 p.m. WA6BXN Rptr. 146.13/73.

Tri-County Amateur Radio Assoc. P.O. Box 142, Pomona, CA 91769. Meets: 2nd Mon./monthly, 7:30 p.m., 703 N. College Way, "The Faculty House," (lower level), Claremont, CA.

United Radio Amateur Club K6AA. L.A. Maritime Museum, Berth 84, Foot of 6th St. San Pedro, CA 90731. Meets 3rd Fri./monthly except Dec., 8:00 p.m. Talk-in 145.58 Simplex.

West Coast Amateur Radio Club. Fountain Valley School. Talbert/Bushard. Fountain Valley, CA. Meets 3rd Thur./monthly. 145.44-4Z.

Western Amateur Radio Assoc. Meets 1st Tues./monthly, 7:00 p.m., Cerritos Park East, 166th St. and Carmenita Ave., Cerritos, CA. Rptr., N6ME 145.400-/224.180MHz.

Westside Amateur Radio Club. Meets 3rd Thurs./monthly, 7:30 p.m., Santa Monica Red Cross, 1450 11th St., Santa Monica, CA. Info Net every Tues., 8 p.m., 146.670, -600.

West Valley Amateur Radio Assoc. 18011 Saratoga — Los Gatos Road, Los Gatos, CA 95030. Meets: 3rd Wed./monthly, 7:30 p.m. W6PIY/R. Net Tue., 8:30 p.m., 147.39+ 223.96-.

CONNECTICUT

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

DELAWARE/PENNSYLVANIA

Penn-Del Amateur Radio Club. P.O. Box 1964, Boothwyn, PA 19061. Sponsor of KA3TWG/Rptr. on 224.220 serving all of S.E. Penn. and Northern Del. Info/net every Thurs. at 20:00 hrs. or call Hal Frantz (302) 798-7270.

FLORIDA

Gulf Coast ARC, Inc. P.O. Box 595, New Port Richey, FL 34656. Meets 4th Mon./monthly, 7:30 p.m., Colonial Hills Civic Ctr., 87 Peacock Dr., New Port Richey. WA4GDN Rptr. 146.67/.07.

Indian River ARC, Inc. (IRARC). 597 Capri Rd., Cocoa Beach, FL 32931. Martin Andersen Senior Center, 1025 S. Florida Ave., Rockledge, FL. Meets: 1st Thur./monthly, 7:30 p.m.

South Brevard Amateur Radio Club. P.O. Box 2205, Melbourne, FL 32902. Meets 1st Tue./monthly, 7 p.m., Melbourne Public Library, 540 Fee Ave., Melbourne, FL.

West Palm Beach Amateur Radio Club, Inc. W4HAW. P.O. Box 6834, Southboro Station, W. Palm Beach, FL 33405. Meets 2nd Tue./monthly, 7:30 p.m., Palm Beach Co. Emergency Op. Cntr., 3723 Belevedere Rd., W. Palm Beach, FL. Rptr.: 147.135 MHz. Info: Jeff, WB2OUK, 586-5120; Charlie, K2GNZ, 582-1164 or Henry, WA4HXZ, 655-4632.

GEORGIA

Dalton Amateur Radio Club (DARC). P.O. Box 143, Dalton, GA 30722-0143. Meets 4 Mon./monthly, 7:30 p.m., Dalton College Voc. Tech. Bldg., Dalton, GA. Info net: Sun. 9:30 p.m., 145.230 MHz; Wed. 9 p.m., 147.135 MHz.

HAWAII

Big Island Amateur Radio Club. P.O. Box 1938, Hilo, HI 96721-1938. Meets: 2nd Tue./monthly, 7:00 p.m., Helco Auditorium, 1200 Kilauea, Hilo. Talk-in on 146.76(-).

ILLINOIS

Amateur Cross Link Repeater. 10, 6, 2 mtrs., 220, 440, 900, 1.2 MHz, ATV. Meets: 1st Sat./monthly, 7:30 p.m. Info: net Sun., 8 p.m., 147.225 MHz. KD9FA Rptr./Chicago.

Bolingbrook Amateur Radio Club. Meets 3rd Mon./monthly, 7:30 p.m., Bolingbrook Pk. Dist. Rec. Ctr., Briarcliff Rd., Bolingbrook, IL. Info net Thursdays, 8 p.m., WD9AKO/R 147.33 MHz +.600 and WA9DIP/R 224.54 MHz -1.6. Info hotline (708) 759-7005. ARRL affiliated club.

Central Illinois Radio Club, W9AML. Meets 4th Wed./monthly, 7:30 p.m. (from Sept. to May), McLean Co. Law & Justice Center, ESDA Rm., Bloomington, IL. Club Rptr. 146.94 -600kHz.

Chicago Amateur Radio Club. Founded 1926. Meets 1st and 3rd Wed./monthly on Northside of Chicago, 7:30 p.m. Info call (708) 869-HAMS or (312) 545-3622.

DuPage Amateur Radio Club, (DARC). Meets 4th Mon./monthly, 7:30 p.m., Holy Trinity Catholic Church, 111 S. Cass Ave., Westmont, IL. Club rptrs. are 145.25-, CTCSS 107.2; 224.68- and 442.55+ CTCSS 114.8.

Elgin Amateur Radio Society. P.O. Box 1351, Elgin, IL 60120. Meets in EOC Rm. of Elgin Municipal Bldg. 2nd Fri./monthly, 8:00 p.m.

Fox River Radio League. Valley National Bank, Lower Level, Northgate Shopping Ctr. & RT. 31, Aurora, IL (312) 584-4925 for more info. Meets: 2nd Tue./monthly, 7:30 p.m.

Hamfesters Radio Club, W9AA. P.O. Box 42792, Chicago, IL 60642. Meets 1st Fri./monthly, 8 p.m., Crestwood Civic Center, 139th & Kostner Ave., Crestwood, IL. Nets: Sun. 8 p.m., 28410 MHz and Mon. 9 p.m., 146.43 MHz.

Metro DX Club. Meets 3rd Fri./monthly (except Dec.), at Oak Forest Hospital, (employee quarters), 159th St. and Cicero, Oak Forest, IL, at 8 p.m. Christmas party in Dec. Net: DX/Club info, every Tues., 8 p.m., 146.46 Simplex.

Northwest ARC/W9LM. Meets: 2nd and 4th Tue./monthly, 7:00 p.m., Oehler Funeral Home downstairs community room, Lee & Perry Street, Des Plaines, IL. Net 28.375, 8:30 p.m., non-meeting Tuesdays.

Peoria Area Amateur Radio Club. Meets 2nd Fri./monthly, 7 p.m., Red Cross Bldg., corner of Knoxville & Armstrong, Peoria, IL. Info on W9UVI rptr. 146.250/146.850.

Schaumburg ARC (SARC). Meets: Schaumburg Park District Community Rec. Cntr. at Bode and Springinsguth Roads, Schaumburg, Illinois. Third Thur./monthly, 7:30 p.m. Net 28.350, 8:00 p.m. Thur.

Six Meter Club of Chicago K9ONA. Bank of Lyons, Lower Level, 8601 West Ogden Ave., Lyons, IL. 2nd Fri./monthly, 7:30 p.m. Club Rptrs: 146.37/97, 448.30/443.30.

Wheaton Community Radio Amateurs, (WCRA), P.O. Box QSL, Wheaton, IL 60189. Meets 7:30 p.m., 1st Fri./monthly, College of DuPage, Glen Ellyn, IL. Nets Sun. & Tue. 8:00 p.m., 145.39 MHz.

York Radio Club. Meets: 3rd Fri./monthly, 8 p.m., Elmhurst College (Science Bldg.) Elmhurst, IL. Net Mon., 8 p.m. W9PCS/147.42 simplex.

KANSAS

Pilot Knob Amateur Radio Club. Meets 1st Thurs./monthly, 7 p.m., 525 Shawnee St., Leavenworth, KS. ARES net every Thurs., 7:30 p.m. 147.60/147.00. For info call (913) 682-6904.

LOUISIANA

Baton Rouge Amateur Radio Club W5GIX. P.O. Box 4004 Baton Rouge, LA 70821. Meets last Tue./monthly, 7 p.m., Catholic High School cafeteria, 855 Hearthstone Dr., Baton Rouge, LA. Net 8:30 p.m. each Sun. on 146.79.

MASSACHUSETTS

Mohawk Amateur Radio Club. Meets: 4 Wed./monthly, 7:30 p.m., American Legion Hall, 325 Pequoig Ave., Athol, MA. (One block north of downtown traffic lights, past the bridge.)

MICHIGAN

Farmington Amateur Radio Club. Meets 2nd Wed./monthly, 7:30 p.m., Wheeler Street Fire Station, Farmington Hills, MI. Contact: Jim, WA8SEL, 474-8765. Talkin: 146.49MHz.

Hazel Park Amateur Radio Club. Hoover Elementary School-Hazel Park, P.O. Box 368, Hazel Park, MI 48030. 2nd Wed./monthly, 7:30 p.m. Sept. thru May. 147.51 Simplex Call-In. W8JXU Club Call.

Oak Park Amateur Radio Club. Oak Park Community Center, 14300 Oak Park Blvd. (same as 9½ Mile Rd., west of Coolidge). Oak Park, MI 48237. 2nd Mon./monthly, 7:45 p.m. Talk-in on our 224.36 MHz or 146.64 MHz.

Top-Of-Michigan A.R.C. Meets 2nd Tues./monthly, 7 p.m. at the State Police Pst., Gaylord, MI. Net Tue., 9 p.m. EDT 146.82/22.

MINNESOTA

Minneapolis Radio Club. P.O. Box 25167, Minneapolis, MN 55458. Meets 3rd Fri. (exc. June, July, Aug.), Mpls. Red Cross, 11 Dell Place, Mpls, 7:30 p.m. Making waves since 1916.

MISSOURI

PHD Amateur Radio Assn. Inc. P.O. Box 11, Liberty, MO 64068. Meets last Tue./monthly, 7 p.m. Red Cross Bldg. (816) 781-7313, Volunteer Examiner Coordinator.

NEVADA

Frontier Amateur Radio Society, (FARS). Meets: 3rd Mon./monthly, 7 p.m. Denny's Restaurant across from Nevada Palace, 5318 Boulder Hwy, Las Vegas, NV. Net Mon. 7:30 p.m., 145.39 Rptr. on Black Mountain. Club info, Tom Bull, NW7S, 642-5033.

Las Vegas Radio Amateur Club (LVRAC). Meets: 2nd Tue./monthly at 7 p.m., Nevada Power Bldg. Wengert Rm., 6226 W. Sahara Ave. (Near Jones). Net Tue. 8:00 p.m. on 146.94 MHz. Info: Call George at 459-2586.

Sierra Intermountain Emergency Radio Assoc. (SIERA). P.O. Box 2348, Minden, NV 89423. (702) 882-0451. Meets: 2nd Tue./monthly, 7:30 p.m., Douglas County Lib., Minden, NV. Talk-in: 147.330.

NEW HAMPSHIRE

Great Bay Radio Assn., WB1CAG. P.O. Box 911, Dover NH 03820. (603) 742-0130/742-1374. 2nd Sun./monthly, 7:00 p.m. Dover City Hall. Talk-in 147.57.

NEW JERSEY

Bayonne Emergency Mgt. ARC (BEMARC). 16th St. & Ave. A Firehouse, Bayonne, NJ 07002. Meets 2nd Tue./monthly, 7:30 p.m. Tri-Band linked repeaters: 145-430/224.280/445.575 MHz.

Delaware Valley Radio Assoc. (DVRA). Our Lady of Good Counsel Church. 137 W. Upper Ferry Rd., West Trenton, NJ 08628. Meets: 2nd Tues, Wed./monthly, 8 p.m.

Garden State Amateur Radio Assoc., W2GSA. Meets 1st & 3rd Wed./monthly, 8 p.m. at Bicentennial Hall, Fair Haven, NJ. All are welcome.

Jersey Shore Chaverim. Meets 1st Sun./monthly, 9:30 a.m., JCC, 100 Grant Ave., Deal, NJ, Sept. thru June. Net 1st Thurs./monthly, 9 p.m. local on 145.110, KC2Q. For info call (201) 222-3009.

South Jersey Radio Assoc. (SJRA). Pennsauken Sr. Hi Sch. at Hylton Rd. & Remmington Ave., Pennsauken, NJ 08109. Jan.-Oct. 4th Wed./monthly, 7:30 p.m. Nov.-Dec. 3rd Wed. due to Thanksgiving and Christmas. Talk-in 145.290 rptr. Club call K2AA.

NEW YORK

Communications Club of New Rochelle, NY. Harrison Street Firehouse. Richard Sandell, WK6R, (914) 834-2322. Meets: 1st Mon./monthly, 8 p.m.

Genesee Radio Amateurs (GRAM). N.Y.S. Civil Defense Center, State St., Batavia, NY 14020. Meets: 3rd Fri./monthly, 7:30 p.m. 147.285+ W2RCX.

Hall of Science Amateur Radio Club. P.O. Box 131, Jamaica, NY 11415. HOSARC, 2nd Tue./monthly, Hall of Science Bldg., 47-01 111 St., Flushing Meadow Park at 7:30 p.m. The tristates' only 3-band linked rptr. system 144.300 S/223.600 – /445.225 – .

Lancaster Amateur Radio Club (LARC). Meets 1st Tues./monthly, 7:30 p.m., Aurora Middle School, 147 Aurora St., Lancaster, NY. Net: W2UJR every Monday, 7:30 p.m. 146.55. Contact Luke Calianno, N2GDU, (716) 683-8880.

Orleans County Amateur Radio Club (WA2DQL). Meets: Office of Disaster Preparedness (CD), West County House Rd., Albion, NY 14411, 4th Wed./monthly, 7:30 p.m., 145.270 – WA2DQL.

PROS, Pioneer Radio Operators Society. Meets: 1st Wed./monthly (except July/Aug.) 7 p.m., Masonic Temple, Rt. 78, Java Village, NY. Other Wed., 8 p.m. 145.170/144.57- Repeater KC2JY.

The Radio Club of J.H.S. 22, N.Y.C., Inc. WB2JKJ, P.O. Box 1052, New York, NY 10002. 24-hr. hotline, (516) 674-4072, FAX, (516) 674-9600. Non-profit org. using Ham Radio to enhance the education of youngsters, nationwide. Join us — "Classroom Net", 7.238 MHz, 7 a.m. E.S.T. PSE QSL!

Suffolk County Radio Club. 3rd Tue./monthly, 8 p.m. Bohemia Rec. Ctr., Ruzicka Wy. W2DQ/R 144.610/145.210, 223.080/224.680 rptr. Info call Jim Heacock (516) 473-7529.

Westchester Amateur Radio Assoc. (WARA). Scarsdale Village Hall, Scarsdale, New York. Meets: 1st Wed./monthly, 8:00 p.m. For info call Dan Grabel, N2FLR, Pres. (914) 723-8625.

Westchester Emergency Communications Assn. (WECA) 147.66/147.06, 222.80/224.40, 447.475/442.475. Meets: 2nd Mon./monthly, 7:30 p.m., Westchester County Ctr., White Plains, NY. Info: P.O. Box 831, N. Tarrytown, NY 10591. (914) 631-7424.

NORTH CAROLINA

North Carolina Chapter TSRAC. Meets: Mondays, 28.350 on the air, 8:30 p.m. local time. "The Alligators" — all mouth, no ears.

OHIO

Amateur Radio Fellowship (ARF). Greg Ash, KA8TOA, Sec. 423 Pioneer Ave., Kent, OH 44240. Meets: 1st Sat./monthly at Kent Wally Waffle. KA8YKT rptr. 147.075.

Ashtabula County ARC. Ken Stenback, AI8S (964-7316). County Justice Center, Jefferson, OH. 3rd Tue./monthly. 7:30 p.m. County Rptr., 146.715.

Clyde Amateur Radio Society (C.A.R.S.) Meets: 2nd Tue./monthly, 7:30 p.m. Municipal Bldg., Clyde, OH 44811. NF8E Repeater 144.75/145.35. Net Sun. 9 p.m.

Dayton Amateur Radio Assoc. P.O. Box 44, Dayton, OH 45401. Meets 1st & 3rd Fri./monthly (Sept. thru June) 8 p.m., Career Academy on River Corridor Dr. Info on W8BI 146.34/94 & 222.34/223.94.

Lancaster & Fairfield County A.R.C. Meets 1st Thur./monthly, 7:30 p.m., City Hall, Basement Club Rm., Broad & Main. Info Net every Mon., 8 p.m. K8QIK/R 147.63/03 Rptr.

North Coast A.R.C. P.O. Box 30529, Cleveland, OH 44130. Meets 2nd Thurs./monthly, 7:30 p.m. at North Olmsted Town Hall on Dover Center Rd. between Lorain & Butternut Ridge Rds. 10 miles west of downtown Cleveland.

Silvercreek Amateur Radio Assn. (SARA) Meets 3rd Thur./monthly, 7:30 p.m., Doylestown Village Hall, Doylestown OH. WD8PNF/R 147.99/39 rptr. For info call 216-925-2363.

Toledo Mobile Radio Association. P.O. Box 273, Toledo, OH 43697. Meets 2nd Wed./monthly, 7:30 p.m., Luke's Barn, Lucas County Rec. Ctr., 2901 Key St., Maumee, OH. W8HHF 147.87/27 Rptr. Rptr. info/swap & shop, Sundays, wkly — 8:30 p.m.

Triple States Radio Amateur Club. Meets Wed./weekly on 28.480 at 8:30 p.m.; 7259 at 9 p.m. Rptrs. 146.31/91 and 146.115/715. P.O. Box 240, Rd. #1, Adena, OH 43901. (614) 546-3930.

Warren Amateur Radio Assn. Meets 1st & 3rd Tue./monthly, 7:30 p.m. at Kent State Univ. Trumbull campus, Rt. 45 in Champion, OH. Club rptr. W8VTD 146.97MHz.

OREGON

Keno Amateur Radio Club. P.O. Box 678, Keno, OR 97627. Meets 3rd Thur./monthly, 7 p.m., Keno Fire Station. Rptr. 147.32+ W7UFM. Info: Tom Hamilton, WD6EAW, (503) 883-2736.

PENNSYLVANIA

Butler County Amateur Radio Club. P.O. Box 1787, Butler, PA 16003-1787. Meets 1st Tue./monthly, 7:30 p.m. at Red Cross Bldg., 312 Mercer St., Butler PA 16001. Call-in: W3UDX 147.96/36. Net 10:10 p.m. nightly.

RF Hill Amateur Radio Club. Meets last Thurs./monthly, 7:30 p.m. at First Federal Savings & Loan of Perkasie, 600 Market St., Perkasie, PA. Nets: Wed. & Sun., 8 p.m. on 144.71 — 147.310.

TENNESSEE

Nashville Amateur Radio Club. Meets 3rd Thurs./monthly at Lock 2 Metro Park off Pennington Bend Rd. Grilled hamburgers at 6 p.m., mtg. at 7 p.m. Call Jerry, KK4TV, at 754-2326 for info.

TEXAS

Beaumont Amateur Radio Club. Meets last Tues. of each month at the GSU Aud., South and Oxford Streets, Beaumont, TX, 7:30 p.m. Talk-in on 146.16/76 or 146.10/70. Join the fun!

Sun City Amateur Radio Club. Meets 1st and 3rd Fri./monthly, 7:30 p.m., 3709 Wickham Ave., El Paso, TX. K5WPH 147.240/147.840 Rptr. with remote operation on 220, 440, 6M, and 10M.

VIRGINIA

Southern Peninsula Amateur Radio Klub (SPARK). Meets: 1st and 3rd Tue., Salvation Army Community Bldg., Hampton, VA. Operates 146.13/73 Rptr., VEC Information (804) 898-8031.

Virginia Beach Amateur Radio Club (VBARC). Open Door Chapel, 3177 Virginia Beach Blvd., Va. Beach, VA. Meets First Thur./monthly, 7:30 p.m. For info (804) 497-1235.

WEST VIRGINIA

Jackson County Amateur Radio Club. Robert D. Morris, WA8CTO, Sec.-Treas. 308 Edgewood Circle, Ripley, WV 25271. Meets 1st Thur./monthly, 7:30 p.m., United National Bank of Ripley. Net Mon. 9 p.m. on 146.67/.07 WD8JNU/R.

Tri-state Amateur Radio Assn. Meets: 3rd Tue./monthly, 7 p.m., Green Valley Vol. Fire Dept., Norwood Rd. & 16th Street Rd., Huntington, WV. ARES net Thur. 9 p.m. on 146.76(–) W8VA/R. Info KB8EHJ (304) 824-5958.

WASHINGTON

Mike & Key Amateur Radio Club. 3rd Sat./monthly, 10 a.m. Tukwila Com. Ctr., 4101 So. 131st St., Seattle, WA. Net. Wed. eve., 7:30 p.m. 146.22/146.82 rptr.

WYOMING

University ARC. 146.01/61 Meets: 1st Tue., 7:30 p.m. Sept.-May U.W. Physical Plant Bldg., 15th & Lewis St., P.O. Box 3625, Laramie, WY 82070. June-Aug: Bernie Club picnics Wed.

10-10 INTERNATIONAL News

Chuck Imsande, W6YLJ
10-10 19636

Happy holidays, hello 1991

As I sit here ready to write this column, it is Saturday, Nov. 10. You will be reading this in mid-December, and the issue is dated January 1991. How time flies! The temperature today, on my patio, is 94 degrees and we are 12 days from Thanksgiving. Yet, when you read this in mid-December, we will be only a few days from Christmas and the weather will be considerably different both here in Southern California and wherever you are. This all brings me to wishing you and yours a very happy holiday season and a healthy, prosperous New Year.

As we enter 1991, 10-10 will be taking a giant step forward. For the first time in our history, a set of officers and board of directors that was elected by the entire membership will take office. This makes 10-10 a truly International Organization with one director, Peggy Pinell, G4MAE, 10-10 #32992, our first director outside of the United States.

The following officers and directors will take office on January 1, 1991:

President
Norm Lefcourt, W6IRT, 10-10 #14981
Vice President
Hugh Sullivan, WA4QZU, 10-10 #23166
Secretary
Marge Smothers, WA6ZPX, 10-10 #36007
Treasurer
Gerry Gross, WA6POZ, 10-10 #21274
Director
Peggy Pinell, G4MAE, 10-10 #32992
Director
Elaine Nickoloff, N8CBE, 10-10 #30409
Director
Linda Barnes, KJ4FM, 10-10 #43299
Director
Don Weaver, K0JPW, 10-10 #4541
Director
Gary Ward, KD7UZ, 10-10 #13825
Director
Jack Miller, W9WYN, 10-10 #6894
Director
Pete Matson, KC1CP, 10-10 #37190
Director
Tom Henderson, K4CIH, 10-10 #33233
Director
Dave Prichard, KA4OVO, 10-10 #37297
Director
Marvin "Marv" Hagan, WB2SJQ, 10-10 #6090

The new officers and directors will meet for the first time as a group at the 1991 10-10 Convention in Dallas (Arlington), Texas on June 7 through 9, 1991. Prior to the meeting in Dallas, President Norm Lefcourt, W6IRT, will be establishing committees and assigning specific tasks to the new officers and directors. This is all shaping up to be one of the best periods in the history of 10-10.

Club station number status

As a result of discussions at the recent board of directors meeting in Long Beach, California on Oct. 20, 1990, there seems to be some confusion regarding the status of 10-10 numbers issued to club stations. The discussion revolved around the 10-10 numbers held by station licenses which were issued to individuals, not 10-10 numbers issued to station licenses which were issued to a radio club. For example, an individual, at the present time, can designate his call as a club station, i.e. add a suffix /C to his call and request a 10-10 number. This actually means two 10-10 numbers are being issued to the same call, one to the basic call and one to a /C call.

The board of directors, after much discussion, voted to advise the district managers to hold all requests for /C club stations in abeyance until the new board of directors could review the overall situation and decide on a course of action. The board did not vote to revoke the existing /C club station 10-10 numbers. Somehow, misinformation leaked out and there has been considerable discussion between members regarding this issue. President Norm Lefcourt will discuss this further in his column in the winter issue of *The 10-10 News,* due out in late January.

New address

Rick Roberts, N4KCC, 10-10 #41851, the fourth district manager for Kentucky and Tennessee, has a new address; all correspondence to Rick should be sent to 7106 Ridge Stone Drive, Ooltewah, TN 37363-8871.

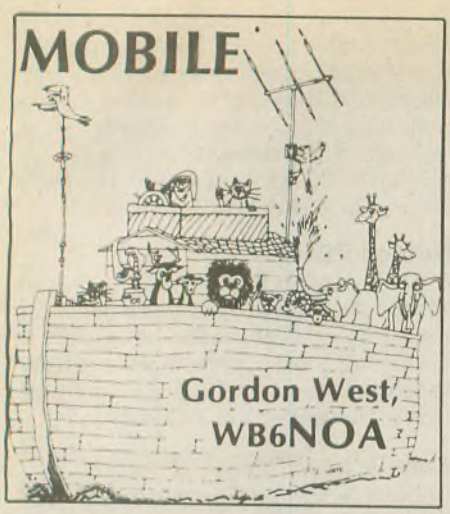
Contests for 1991

Contest Manager Harry Syring, WB1FTQ, 10-10 #23934, has announced the following dates for the 10-10 QSO Parties for early 1991. The Winter Phone Contest will be held from 0000Z Feb. 2 to 2400Z Feb. 3. The Spring CW Contest will be held from 0000Z May 4 to 2400Z May 5. The Columbine YL Chapter of Pueble, Colorado, will score the Winter Phone Contest and the Samuel Clements Chapter of Tolland, Connecticut, will score the Spring CW Contest. Without these dedicated 10-10 volunteers, we would not have contests. The thanks go to them!

Finally

If you have lost your 10-10 number, I can find it for you. Just send me your call, including all previously issued calls, with an SASE, and you can get back into 10-10 real easy. Remember, once a number is issued, it is yours forever. Numbers are never re-assigned, so once you have been issued a 10-10 number, it stays with you no matter where you move.

If you are not a member of 10-10 and are interested in finding out more about 10-10 and how you can become a member and have your own unique 10-10 number, send an SASE (#10 business size) envelope to me at 18130 Bromley Street, Tarzana, CA 91304-1701 and I will get you an information package. If you would like a sample copy of the latest issue of the *10-10 International News* send me a "green stamp" ($1) and you will get both the information pack and the *News.* An address label would be appreciated. No SASE is required when you send a buck. 73, es cu next month. □



Tuning whips for low SWR

Mobile high frequency whips and most VHF and UHF mobile spikes offer tip adjustments for fine tuning out the standing wave ratio (SWR). This process of *resonating* the whip allows for a more efficient transfer of power out of your transceiver into the antenna, with minimum reflected power returning back down the coax.

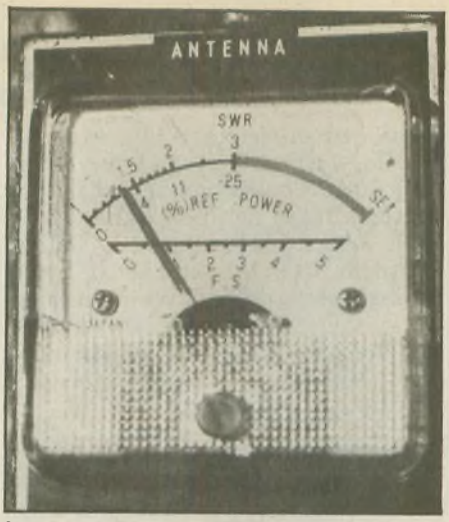
An important consideration for low SWR is proper mounting of the whip. On high frequency antennas, it must be mounted over a good metal ground plane. The ground plane must be beneath the feedpoint, not halfway up the side of the antenna. A good ground plane *below* the antenna will make SWR adjustments a 10-minute job.

On VHF and UHF antennas, many whips are preset, and no SWR adjustment is necessary. But with on-glass antennas, you must always adjust for minimum SWR, as manufacturers cannot present the antenna without knowing the type and thickness of glass on your windshield.

Adjusting HF whips

The SWR adjustment for most HF whips is the stainless steel antenna tip. It may be held in place with a set screw or a locking nut. On helical top-loaded whips, there is no tip whip section, so SWR adjustments are made by carefully removing several turns of the top helical winding.

For HF SWR checks, any reasonable SWR bridge should work fine. This even includes cheap CB SWR bridges. Sure, I would like to see you use a Bird, but inexpensive SWR meters are also available from MFJ, Daiwa, Welz, Kenwood, Heath, NCG Comet, Mirage, Palomar, Yaesu, and a host of "no name" CB bridges imported from overseas. For HF work, I have found little difference between a $5 CB bridge and my $200 Bird — so almost anything that is properly working should work OK up to 30 MHz.



This cheap CB SWR bridge is fine for 3-30 MHz measurements.

The bridge goes in between your HF transceiver and the antenna. Sure, it would be best placed near the antenna feedpoint, but that's impractical when you are working alone. So, forget what you read in the antenna books, mount it by the transceiver, and take your measurements from there. Oh yes, I almost forgot — most modern transceivers already have a built-in SWR bridge, so you won't need an external one.

If you have a dummy load, put it in place of where the antenna should go on your mobile, and key up on an unused frequency. You should show at least 100W output, and next to nothing on reflected power. If this checks out, your bridge is working okay. Now screw on the antenna for the band you wish to check. I usually start out on 20M.

Part 97 only allows you to transmit within your particular sub-band within the 20M band, so find an Extra class operator that will stand at your side during the following low-power measurements. this allows you to go from one end of the band to the other, legally. We will use low-power CW for all our measurements with the Extra class operator present, to insure full compliance with the rules.

First, we need to "set" the "forward" power output so the SWR needle swings as far to the right as possible. On inexpensive needles, increase your transceiver's power output so the SWR bridge in "forward" goes to the "set" mark. On the Bird meter, run your power output just high enough to get a full deflection on the lowest power slug you have in the box.

At the very legal bottom of the band, switch your SWR meter to read "reflected power." You can read it in watts, or read it as a ratio.

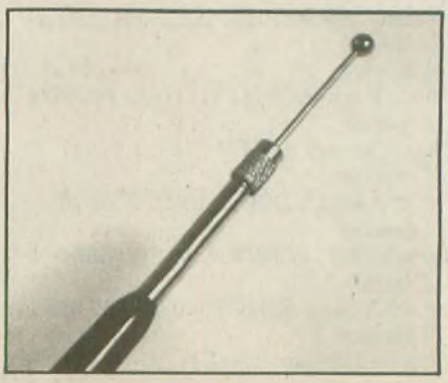
3:1	25 percent power loss
2:1	11 percent power loss
1.5:1	4 percent power loss
1:1	Perfect match — no power loss

Recalibrate and check your SWR readings at mid-band and at the top of the band, not causing interference to ongoing transmissions. It's bad operating practice to "sweep the band" on transmit, but I know you will. If you do, note where the lowest SWR dips and the frequency of this dip.

If the dip is too low in the band, shorten the whip tip. If the dip is too high in the band, lengthen the tip-whip. If there is no dip at all, and your SWR is lousy, you will need to find a better mounting location away from nearby metal.

On 40, 80, and 160M, the dip may not be below 2:1. As long as it's a nice steep dip, this is okay. If you really want to perfectly match the whip, consider the WW Sales (phone 704/628-1247, evenings) base-matching device that raises the base impedance of low-band whips up to 50 ohms. (This same company also has a dandy 1-page sheet, with full credit to Don Johnson, W6AAQ, entitled "Mobile High Frequency Antennas — What You Need to Know About Them.")

Usually only one or two inches is necessary for adjusting the tip-whip on



Adjust the tip-whip out to let the antenna work lower in the band.

HF. The only exception is if you run the Hustlers as a spider, where the tip-whips may need to be shortened by as much as five inches to make the entire set-up work. This is why I prefer the true Spider antenna over the "me too."

On helical HF whips, removing the red cap and unwinding some of the wire turns is one way to raise the resonant frequency. Except for a top hat, there is little you can do on a helical whip with no tip to lower its resonant frequency.

It's unprofessional to sweep the band on transmit, even running only low power, to see the dip in action. However, it's one of the easiest ways to find where your antenna is resonant. Just remember, shortening the whip tip raises the resonant frequency, and lengthening the tip-whip lowers the resonant frequency. And if you see no dip at all, something has gone whacko with your installation.

VHF antennas

Most single-band, dual-band, and tri-band antennas require little SWR adjustments. If you notice you're not getting full power ouput on your VHF or UHF rig, you may need to invest in a rather expensive VHF or UHF SWR bridge.

HF SWR bridges won't work worth a darn above 50 MHz. Yes, you can buy inexpensive VHF/UHF SWR bridges, and some good ones are available from NCG Comet, Mirage, MFJ, Kenwood, Nye and other leading manufacturers. Just make sure they specifically rate their VHF and UHF SWR bridges for operation between 100 MHz to 500 MHz. If you're going way up to 1.2 GHz, check with NCG Comet for an SWR bridge that reaches this high frequency.

Do your SWR measurements just like HF. Start at the bottom of the band, go to the middle of the band, and then the top of the band. Move the adjustment in or out depending on which way you need to move the resonant point.

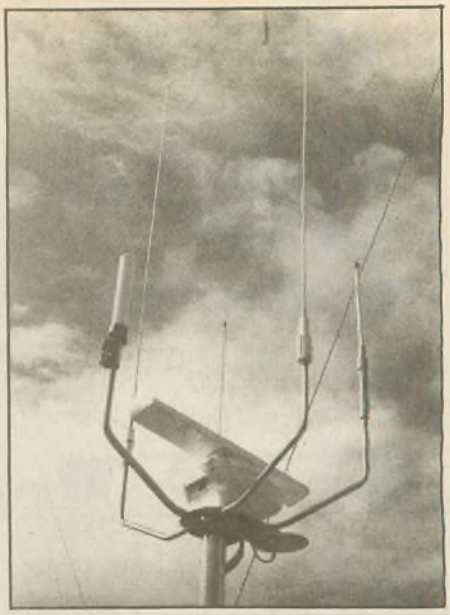
Fine tuning the SWR down to a perfect 1.1:1 match.

With the on-glass antennas, you will need a small screw driver to adjust the inside matching network. Do this carefully; the whole inside assembly is rather fragile. The dip will be very tight, and I usually first find it on receive when the signal strengths pick up at a certain spot within my adjustment range. Then go to transmit on a clear frequency, find the dip, double-check power out, and your SWR adjustment is achieved.

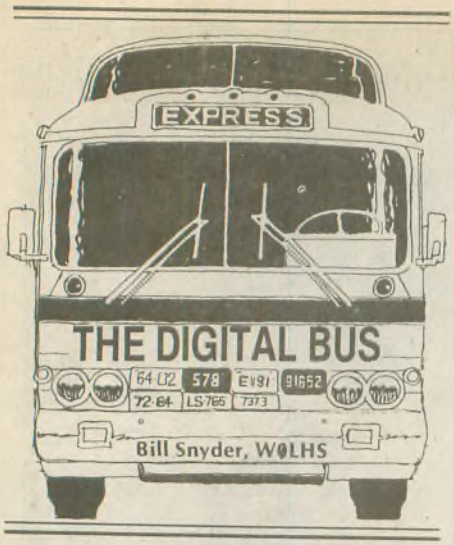
My final thought on SWR is, don't get overly excited if the SWR is slightly elevated on HF. As long as you see a nice, sharp dip, chances are everything will work out well. But if you don't see the dip, chances are the SWR is sky high throughout the band, and you need to do more work on your set-up.

On VHF and UHF, most of those little stainless steel antennas, duplexers and triplexers are already factory-tuned. No SWR adjustment is necessary. However, on-glass antennas are rarely even close to being resonant, so an SWR adjustment is absolutely necessary. If you have absolutely no VHF or UHF bridge available, adjust the little on-glass set-up for maximum noise on receive. This is pretty close to minimum SWR.

And if everybody is saying your mobile set-up is the strongest signal around town, or skywave stations are giving you considerably stronger signal reports than other mobiles in the same state, don't touch a thing — you're probably already close to a perfect match. □



Mounting mobile whips too close together will cause an elevated SWR.



The other day I was sitting at my packet bulletin board keyboard when I got to thinking about some of my radio experiences in World War II. Radio communication has come a long way since those days of mechanical Teletype machines, tubed receivers and transmitters and mechanical typewriters. It really is amazing!

I served in two different US Army organizations during the BIG war. I spent the first year and a half in the Engineer Amphibians, the "sea horse" people who manned our small landing craft invasion fleets; and later nearly two years in the 58th Signal Battalion, the communications outfit that supported the Army Corps in the South West Pacific Theater of Operations. I was sent to the Signal Corps because they were short on radio officers in the Theater and I had whatever qualifications they were seeking when someone stuck the needle in the personnel "Q" cards; My card fell out.

I was transferred from the Amphibs in New Guinea to the 58th in Rockhampton, a sleepy town in Queensland, Australia. When I arrived I was assigned duty as the radio platoon leader in the operations company. It consisted of 66 highly-trained CW operators, most of whom had the military specialty number for "high-speed radio operators." And some of the guys were pretty speedy, believe me. At that time my CW copying speed was about 25 words per minute using a pencil, zero with a typewriter.

While in the Amphibs I was a battalion communications officer, so I had access to radios but not to the typewriter. In order to supply our Amphib regiment with a daily newspaper we copied a Mackay wireless CW station, KFS/KNA6, in the US. KFS sent code at a good steady 33 wpm. The daily broadcast was two hours long and it was intended only for the use of ships at sea that were Mackay subscribers. The broadcast started at 4 p.m. in the New Guinea time zone and was continuous except for a couple two-minute breaks each hour. The breaks coincided with the two-minute international silent periods observed by all ships at sea. These quiet times began at 15 and 45 minutes after the hour, and they were designated so that all shipboard "Sparks," as the radio ops were tagged, could listen for distress signals without QRM interference.

None of the radio operators in the Amphibs were designated "high-speed" CW operators, although all were qualified for copying 20 plus wpm using a pencil. I was determined to be better than any of the enlisted men in my command, so I spent a lot of off-duty time practicing copying press from KFS and other sources. I got good at it; practice makes perfect.

So when I arrived in Rockhampton I could copy the code, but my typing was practically nil. The 58th radio section also copied the KFS news broadcasts, as did about every radio unit in the Pacific Theater. Years later, I talked on my ham rig to a guy who worked for Mackay in San Francisco and I told him about our bootlegging the news from Mackay. He laughed. "Every outfit with a radio must have copied our press," he said, "we received fan mail from all over the world thanking us for the news." I thanked him also.

Shortly after I joined the 58th we boarded a Dutch ship for transport to Goodenough Island located off the shore of Papua, New Guinea. There we were to stage a big amphibious invasion of Hansa Bay in Dutch New Guinea. Before leaving Australia our radio section built special portable tables with typewriter wells and a place to set the Hammarlund Super-Pro receivers we were issued. We were also issued two Australian-built mobile vans that were complete with kilowatt transmitters and first-rate operating positions. Great Aussie equipment.

Our task force would have to depend entirely on high-frequency radio for communications back to 6th Army Headquarters, GHQ of the Southwest Pacific area, the Air Corps and the Navy. All in all, we planned on about twenty CW circuits that had to be manned 24 hours a day. So, we geared up for the invasion.

Right in the middle of our planning, General Douglas MacArthur changed his mind and switched our invasion orders from Hansa Bay to Hollandia and Tanamara Bays in Dutch New Guinea. The 41st and 24th Infantry Divisions were the major units in the task force.

I was delighted with the code speed of my platoon of operators. Most of our unit had been recruited from the mid-west telephone companies and the men were specialists in telephone operations of all kinds. It was a first class unit. The radio ops were from all over the US and they were excellent.

I was determined to match the speed of anybody in the outfit, but first I had to learn to copy on the "mill," as telegraph operators called typewriters in those days. I was a self-taught typist and I had bad habits which were hard to overcome. The process was painful, but I managed. KFS was a good station to practice on, and two hours a day was fine discipline. I could make a reasonably readable typewriter print at 22 wpm, so I spread my wings.

I mastered the Japanese propaganda broadcasts in English, and then tackled our State Department press at 35 wpm. I didn't get much good copy to start with, but I stayed with it. The State Department station, KUN, used all the punctuation marks in the International Morse Code: dollar signs, quotes, apostrophes, parentheses, etc. I spent more time wondering what I had heard than I did typing.

We invaded Dutch New Guinea, but I kept practicing whenever I had the chance. In Hollandia we remoted our transmitters about a half mile from Corps HQ. We copied the press from KFS everyday because we wanted our troops to keep up with the news. The amount of military radio traffic we handled was staggering. Some circuits were so overloaded that we had to send "routine" traffic by safe-hand courier instead of CW. Our operators were great!

The next move came when we invaded the Philippine island of Luzon. At about that time the War Department reorganized the Signal Battalion manning charts and I became the Company Commander of the Headquarters Company in which there was a small Radio Intelligence Section. They took over copying the news each day.

Technical Sergeant Deutsch, section leader of the RI group, was a unique typist. He batted the mill with three fingers: the pinky and ring finger on his left hand and the forefinger on his right. He was a symphony of motion when he was typing, to say the least. Deutsch had been a Western Union operator and his speed and accuracy were superb.

Then one day a replacement arrived in the Company orderly room. He was a Technical Sergeant who had spent five years as a radio operator in the Canal Zone. He volunteered to copy the KFS press by asking, "How many copies do you want?"

"Six," Sergeant Deutsch said, "we used three-part Teletype paper in the typewriter, and then we type a second set on triple paper so we can fill all six bulletin boards in the Corps HQ area."

"That's easy," said the newcomer. With that he put two typewriters on the desk at 90 degrees to each other. He threaded triple TTY paper into each machine and put the earphones on his head. KFS started the broadcast. We watched to see what happened next.

When the 22 wpm news started the Sergeant would type a few words on one typewriter then repeat the same words on the second machine. His hands fairly flew back and forth. My jaw dropped about five feet. Sergeant Deutsch, the three-finger master typist, did a double-take. He, too, was astonished. Both of us watched the two-hour cast, and the newcomer did exactly what he said he would do; he made a near-perfect copy on two mills in the same time frame.

Later, we discovered that the new Sergeant was an excellent jazz piano player; however, his CW prowess remained the talk of the battalion. He was the king of the CW ops! I never did try his CW methods; one mill at a time was enough for me.

Eavesdroppings

"PACKET HAS VIRTUALLY WIPED OUT RTTY ON THE VHF BANDS IN THE UNITED KINGDOM ... THE BIGGEST DIFFERENCE BETWEEN WE ENGLISH AND YOU AMERICANS IS THAT THE ENGLISH THINK 200 MILES IS A LONG DISTANCE WHILST AMERICANS THINK 200 YEARS IS A LONG TIME ... OUR NODE IS DOWN AND WE DON'T HAVE ANYONE TO GIVE IT A JUMP-START UNTIL THE WEAKEND ... THERE MUST HAVE BEEN CRAZY GLUE ON THE TOILET SEAT ... I HAVE THREE OFFSPRUNG AND THEY ALL SKII ... ABOUT SIX MONTHS BEFORE I RETIRED I QUIT WORKING ... I LISTED 83 THINGS I WAS GOING TO DO AFTER I RETIRED BUT SO FAR I HAVE NOT DONE ONE OF THEM ... MY XYL HAS CIRCULATION PROBLEMS – SHE DOESN'T GET AROUND MUCH ANYMORE ... I REMODELED OUR BATHROOM AND NOW THE HOT WATER DOESN'T WORK RIGHT ... I JUST BOUGHT A MODEM AND I WOULD LIKE TO LINK-UP WITH MY XYL WHO IS REALLY MY XX-XXYL ... HELLO FROM TENESSEE WHERE THE MOON COMES OVER THE MOUNTAIN IN FRUIT JARS ... SO IT LOOKS LIKE THE BAND IS GETTING FUNKY – WE HAD BETTER QUIT WHILE WE ARE AHEAD ... SAW A MESSAGE THAT TURKEY WAS ON SIX METERS – DIDN'T KNOW IF HE MEANT THE COUNTRY OR A GUY ... IF ALL THAT JUNK MAIL THE POST OFFICE DELIVERS TO OUR HOUSE COMES BY ZIP CODE, WHY CAN'T WE USE ZIPPERS FOR PACKET?" ... THE LETTER FROM THE SAND PILE IN THE MIDDLE EAST WAS TWO WEEKS FASTER THAN THE MARSGRAM HE SENT ME."

Thanks this month to G6ZMD, G0NJN, W8PHG, W0HAH, K6DSB, K8OI, and all those unsuspecting guys I eavesdropped on. Write me: Bill Snyder, W0LHS, 1514 South 12th Street, Fargo, ND 58103. My packet address is W0LHS @ W0LHS.ND.USA.NA, but don't depend on me receiving a message through all the clutter of junk mail that is littering the packet airways. 73 and DIT DIT. □

WITH THIS HANDHELD, YOU'RE OUT IN THE FIELD, THE BATTERY GOES DEAD, AND VOILA --- YOU'RE STILL IN BUSINESS

Search And Rescue Communications

Jerry Wellman, WB7ULH
P.O. Box 11445
Salt Lake City, UT 84147

It's called information. Today's world is, in many ways, controlled by those who offer information. Many businesses survive by selling information to customers who want it. You're reading this column to get information. When a publication fails to offer useful information or to present it in an understandable way for the reader, the publication fails.

As Amateur Radio operators we listen to nets to exchange information. Packet bulletin boards exist (or fail) because of the information available. Several things happen with information: it must exist, someone must want it and if so, it must be understandable and obtainable for a reasonable cost (money or effort).

Volunteer organizations thrive when information is shared. A local repeater club many have a neat linked network with codes to allow access. If you want the access codes (i.e. information) bad enough, you seek to join the group. If it's easy (maybe a few supporting bucks) you join up. If the cost is too high (in terms of money or convenience) you may decide to look to another group.

Search and Rescue groups also deal in information. SAR groups must have information which will allow its individuals to improve their talents so that the group will survive. Individuals are drawn into an SAR group by the group's image (if they are respected, called upon frequently, etc.). As individuals become more competent they reach outside the group to glean more information. This information is then incorporated into the group to keep everyone in an upward spiral.

What happens in an SAR group when leaders become unwilling to accept new information or when they make the "cost" too high for others to obtain information? The inner circle filters information to and from members or shapes the information by telling only selected facts that support the goals and opinions of the inner circle. Valuable group members will recognize this "filtering" and seek to use their skills elsewhere. Remaining members won't recognize this and, well, you're stuck with folks not able to contribute much because they don't have much to offer.

Healthy public service groups share information and seek information. A group's communications network is the "health window." One group's health barometer may be the amount and content of radio traffic: what's happening, questions and answers, lengthy discussions and even official gossip. When groups are unwilling to communicate openly however ("give me a phone call" syndrome), many experienced members may look elsewhere which leaves the group to continually deal with new members who, failing to find information, soon move on to other interests.

During a search or emergency response information becomes critical. Failure to seek and share information willingly can cause or worsen a life-threatening situation.

If you have SAR leaders who rigidly control information in the normal mode, it gets worse in an emergency because they're not used to communicating openly. The issue is compounded further because no *sources* for information have been identified and the inner circle operates in a void, compensating by not saying much so as to not let on that they have no information.

Briefings

One of the most important skills emergency people can develop is briefing. This imparts information to the search teams and stimulates questions to help develop more information. When there's a free flow of data, your teams expect a lot of good search information and help by asking questions.

What would happen if the dispatcher told the responding officer that there was a fight but didn't want to tell him that shots were fired and about 50 people were involved? If you're on the search team, demand information for your own safety!

A folder containing as much information as you can gather can be used for each search team. Putting this data together is a continual process often done by a designated Data Team. Information should cover several areas: general, weather, situation, search area, search pattern, communications, coordination, search team, and recovery.

Your general briefing should include the following topics: safety, all the data known about the search target, headquarters' phone numbers, food, lodging, air and ground fuel, who is coordinating, team conduct, recovery and sighting procedures, etc. Other briefing formats are outlined in the *National Search and Rescue Manual* (available from the Government Printing Office).

Situation briefing should include information on the circumstances of the distress: persons on board, clothing, medical problems, etc.; survival equipment; description of search target; last

known position of the search object; all participating SAR agencies; and recovery procedures.

Weather briefing should include information on the weather at the time of the incident; expected on-scene weather; weather forecast; and special information that may affect search safety.

Search area briefing should include information on search area designations and geographical coordinates; adjacent search areas; known terrain hazards; SAR airspace reservations; areas previously searched, current search areas; rationale for search area selection; enroute search requirements; and enroute navigational charts as necessary.

Search pattern briefing should outline the search pattern to use; starting point; track spacing and altitudes; and navigation in the search area.

Communications briefing should state primary and secondary frequencies; on-scene frequencies; enroute frequencies; monitor frequencies; press channels; air-to-air channels; and call signs.

Coordination briefing should state who is the on-scene coordinator; on-scene change-over point; operations normal reports; position reports; sighting reports; marking sightings; flight plan remarks; and flight and ground hazards. Search teams (or communicators) need such information to determine what equipment to take and to make other important decisions for the best possible effort!

Who and why

Critical search team information is "who we're looking for and why they're missing." It's called *motivation!* Knowing you're looking for a real person, male/female, child or adult lost in the wilderness is significantly more motivating than just saying "we're on a search."

The same holds true for Amateur Radio participation in anything. Communicate *why* the group is going to work on the walk-a-thon and who it's going to help. If each search team member or radio operator has a personal reason to help, the effort will be sincere and they'll work harder at achieving success. As an SAR leader, if you make the mission sound dull or unimportant by withholding information, your team members will also feel the same way.

Media relations

It's true that I work in the journalism field. Yep, I'm on of "them" and have been in the profession since I was 16. I can tell you that groups that work well with the media get inches in print and minutes on TV.

You say that's not important? How do you expect to get new folks interested in Amateur Radio or SAR? Moreover, it's a great motivator for a group's members to see or read about their public service efforts. They'll feel proud that their actions not only helped on the search but merited media attention. Face it, we're all proud when Amateur Radio gets mentioned in a positive way.

But media attention doesn't just happen. It happens when your group's information officer makes the effort to be your media contact and blow your whistle. Strive for consistency (don't change information officers every week) and be honest. You cannot develop a trusting relationship with media people if you try to manipulate the information you provide. Just tell it like it is.

Don't be afraid to jump in and make contact. Media folk will recognize whether your talents are in communications or SAR. They'll ask you questions if you forget something. The person you designate as your information officer must have information — if you're in the dark, the media will be too.

Wellman's First Law of the Media and SAR: If your group is not the information source, the reporter will develop another source before deadline and your group will get little or no mention!

Remember that sharing of information implies respect and trust within an organization. When data ceases to flow your members become discouraged and distrustful. Happy, productive team members enjoy a high level of trust and respect — from each other!

Thanks for your interest and for sharing information with me. I appreciate your comments and will respond if you write to me. No idea or question is foolish unless you fail to share it! □

TRAFFIC

Geri Sweeney, N4GHI

International disaster decade

Passing traffic is a most enjoyable means of preparing to aid with communications in times of disaster. Hopefully, hams who have familiarized themselves with passing traffic and participating in ARES exercises will know what to do and how to do it if a disaster strikes. Amateurs may need to handle tactical as well as health and welfare traffic. When disaster strikes, it's really too late to get out the Net Directory and figure out where a net may be, what the procedures are to gain entry, how to send and receive traffic, how to help as net control, etc. All of this should be familiar enough that one can concentrate on the disaster. On Dec. 22, 1989, the US joined 155 other nations in co-sponsoring a United Nation resolution proclaiming the years 1990 through 1999 as the International Decade for Natural Disaster Reduction. This is an opportunity for Amateur Radio societies to come together as an international community to coordinate communications for tactical, relief assistance and health and welfare traffic communications. Amateur Radio is useful in several stated US goals: timely warnings (Skywarn); preparedness for emergency response (nets for tactical communications; and preparedness of recovery (health/welfare traffic and communications between such agencies as the Red Cross, the Salvation Army, FEMA, AID, etc.).

ANERCOM

ANERCOM was a committee established by ARRL to look into our Amateur Radio emergency plans and generate needed changes. A final report with recommendations was given to the board at the end of 1989. One recommendation from ANERCOM was that ARRL Field Services Department develop an Emergency Data Base. The data base would include ARRL elected and appointed officers as well as all those interested in emergency and traffic operations. Particular skills and qualifications (technical proficiency, bilinguality, medical training, mobile expertise, etc.) would be available utilizing a search of this data base.

While much of this data should already be on Headquarter's computer, choosing a suitable program, adding relevant data and ensuring that it is continually updated would be a large task. This data base would put ARRL Headquarters (in Newington, Connecticut) into the loop so that they could be of help to Amateurs in the field during a disaster. Amateur contributions during a disaster are now so well known the media contacts Headquarters in emergencies to request information. Thus, they are already involved. Another recommendation was to establish a hotline at Headquarters to call when a disaster strikes. Headquarters would then search the data base and alert those needed to help with communications (SM, STM, SEC, etc). As information is gathered from those in the field, W1AW would disseminate news to Amateurs via bulletins. While the board accepted ANERCOM's recommendations and Headquarters seemed willing to implement them, I have not yet seen a phone number published or any information on how one contacts Headquarters past EST working hours to get help on disasters. I wonder how the data base is progressing?

Putting the gate before the horse

ANERCOM spent much time on discussing gateways. We are very fortunate here in the US to have lots of everything. Our gateways could have nodes and nodes and nodes (HF, VHF, SSB, CW, packet, amtor, RTTY, FAX, telephone lines). Each of these nodes could be cross-linked, creating a most sophisticated system. A gateway on the international scene will most likely be one station using one mode (probably SSB) on one frequency. Internationally, radio societies do not seem to encourage their members to participate in international disaster communications. At least, there is no bonding with ARRL and other radio societies in coordinating emergency communications. Instead, a ham who wants to help gets on the radio, starts talking and becomes a gateway. Perhaps ARRL could use the International Disaster Decade to open discussion with radio societies around the world (or at least in our hemisphere) on joint disaster communications.

Guessing

When passing traffic (SSB and/or CW), don't repeat unless asked. Your assumption of what the receive station might not understand will most often be different from what might be needed. You can't even depend on propagation being bad on both ends. Just send the message and wait for QSL or fills. Use WA (word after) WB (word before) and BN (between) on both SSB and CW. If fills are needed because of propagation, it means the receive station is having a hard time hearing you. This is not the time to use discussion mode. When you are anticipating (perhaps straining to hear) the expected WA/WB/BN, and you get discussion (often one side wants to explain why they aren't copying you or they attempt to explain where the missing word is), it becomes frustrating. Worst, it's very time consuming. The transmit station may have more traffic to send in a limited amount of time.

Nursing home traffic

What a fine idea. K5UPN of Longview, Texas tried it for holiday traffic. He sent a QNC asking that anyone who received this traffic really try and retrieve an answer. Sometimes it's difficult to get people on the phone to commit. You get the standard, "I'll write, I'll phone." Or even worse, you just get their answering machine. Since we have holidays on a regular sked (Valentines Day, Easter, Mothers/Fathers Day, etc.), you could really make some of our senior citizens' lives a little happier year round.

Third party traffic

I received a letter from K4ZN, Chuck, who was the author of this column before me. He had several interesting observations. After reading the November Traffic column, he wanted to comment on the FCC rewrite of Part 97; i.e. Amateur to Amateur traffic. He feels that, "it doesn't matter whether or not the addressee is a ham; it's third party traffic only when the originator is not qualified to be a control operator. Hence, 'Say hello to Bob' is not third-party, but 'Bob sends his best wishes' is, unless Bob is a ham." Let me quote from the FCC Rule Book, (1989 Ed, page 228), and see what you think.

Part 97.115, "Third Party Communications," states that "An Ama-

teur station may transmit messages for a third part to: (1) Any station within the jurisdiction of the United States. (2) Any station within the jurisdiction of any foreign government whose administration has made arrangements with the United States to allow Amateur stations to be used for transmitting international communications on behalf of third parties. No station shall transmit messages for a third party to any station within the jurisdiction of any foreign government whose administration has not made such an arrangement. *This prohibition does not apply to a message for any third party who is eligible to be a control operator of the station.*"

Chuck also pointed out that only about one percent of Amateurs are handling traffic. He has counted the number of stations reporting in QST and says it generally runs between one and two thousand, usually in the lower part of that range. Thus, any attrition of Amateur Radio in general will be felt immediately by traffic handlers. As Amateur Radio shrinks, we will be the first to go, unless we can figure out how to get some replacements. Perhaps we need some PR to attract more Amateurs into our realm. It has many rewards. The good feelings you often gain when you deliver messages make you aware of its importance in a community. And it's fun!

Packet traffic

One of packet's weaknesses is its lack of standardized training. Amateurs buy a TNC, read its manual, hook it up to a computer and read that manual, and either through word of mouth or watching the monitor a few minutes, find a PBBS to make a connection. Passing traffic on packet requires knowledge of how to format a message (per ARRL messagegram). Traffic handlers already know this. But it also requires knowledge of how to enter the message so that it will autoforward. This might be compared with knowing how to check into a net. A review of how to pass traffic on packet: Log on your PBBS. When you get the menu or prompt (generally a > sign), type: ST ZIP NTSXX (ST means Send Traffic). Replace ZIP with the five digit zip code. Replace the XX with the two letter state identifier. Thus, traffic going to me would look like this: ST 22309 NTSVA. Once the traffic arrives in Virginia, the zip is read to see which PBBS it should be forwarded to. As with the United States mail, lack of a zip could slow it down as it awaits someone to figure out just where it's going. That is, your message may enter the state and remain on that particular PBBS until a traffic handler or the sysops looks at it and sends it on to a PBBS within range of a local call. If you are sending a message to an Amateur and you know the PBBS, it's better to send it: SP N4GHI WA3TAI (SP means send personal). I'm told that all the identifiers added are put there automatically by the PBBS. That is, when the message arrives saying: de N4GHI WA3TAI.MD.USA: the MD (Maryland) and USA were added on automatically. You don't have to do it.

Note where the spaces are and be sure to leave them. After you push "return" on your computer, it replies with SUBJECT. You could be helpful here and type in the city on NTS traffic. Otherwise, a subject is just a subject. Remember that each time you pick up a message or send one on packet, you have established one point. These points should be totalled each month and sent to your STM as part of your monthly activity report.

Either type in the message now, or have your computer send the message which you have pretyped as a file. Long messages should be prepared ahead of time to shorten your time on the PBBS. To exit back to the menu or prompt, hit "enter" (carriage return) and type a "control Z." This tells the PBBS to store (save) your message. If you are sending the prepared file, wait until all the lines scroll by. The next time the PBBS autoforwards, your message will leave. If you have pretyped a message on the computer to send, you can add /EX on the bottom after a carriage return ("enter"). It is the same as a CTRL Z and will then automatically tell the PBBS to save the message and return you to the prompt. When you have a question, ask your PBBS Sysop. For me, at the prompt: SP WA3TAI SUBJECT: Question (or be creative). Next time you check in, perhaps you will have the answer. My sysops, Tom, is Mr. Nice Guy, and always helpful. □

Station demise

ROBERT T. GODLEWSKI, Trustee W2USA

It is with deepest regret that I announce the passing of two more US Army Military Recreation stations. KP4USA and K3USA are now dead. An autopsy was performed and the cause of death was determined to be apathy, ignorance and neglect on the part of the US Army Information Systems Command, Chief Army MARS and 7th Signal Command.

For those of you who worked these stations over the years, thanks, and maybe someday the calls will be on the air again. □

DXing is a great aspect of the Amateur Radio hobby. Absolutely nothing tests an operator's mettle like DXing. QRP DXing is the epitome of DXing. Anyone (and I do mean anyone) can buy a 100W transceiver, a 1000W linear, 60 ft. tower and 7-element beam and proceed to knock out DXCC in less than six months!

Using QRP power levels (less than 5W output on CW and 10W on SSB) places the low power operator in a much less advantageous position. The actual power difference is somewhere between 12 and 18 dB in favor of the QRO operator. Now if this is not enough to deter most hardy souls, the preferred QRP mode is CW, not SSB. The reason is two-fold. First, CW (irrespective of your personal views in light of the newly proposed code-free license) *will* get through when other modes fail. Like it or not, CW is the mode of choice for weak signal work. Secondly, the sad operating procedures used by most SSB operators today leaves a lot to be desired. With operating habits ranging somewhere between the absurdity heard on CB channel 19 and a gaggle of monkeys with microphones, the QRP SSB operator will have a long row to hoe in order to achieve DXCC.

With such a gigantic imbalance of factors against the QRP DXer how does one enter the DX arena with any hope of success? Well . . . the first step is to become an experienced QRP operator. It would be exceptionally foolhardy for a neophyte QRPer to jump into the middle of a 20M pile-up with the idea of actually working the DX station. However, once this neophyte gains some experience with QRP operation and a little background in working DX, his chances of busting a pile-up on a rare DX station are substantially increased.

One excellent source of information on DX operating is *The Complete DXer*, second edition, by Bob Locher, W9KNI (available from Idiom Press, P.O. Box 583, Deerfield, IL 60015). This 204 page book has 26 chapters which take the new DXer from the beginning attempts at working a DX station right on through the advanced pile-up busting techniques used by the seasoned DXers. Bob's unique writing style and in-depth experience in the world of DXing places the reader right in the middle of the pile-up. You sit right beside Bob's elbow as he explains the tactics of the DX operator and how to put him in the log book. Bob graphically tells you what works, what doesn't and how to make the best of any DX situation.

The Complete DXer is not a book to be quickly read and put on the shelf. The author explains that in order to get the maximum benefit out of the book, you must read each chapter thoroughly and then apply the information in actual on-the-air contacts. This reinforces the information contained in the chapter and allows you to practice each technique as you progress. Approximately half way through the book there is a summary of things covered. Then it's on to the more advanced techniques. Bob's book ends with a look at a DXpedition and "The Last Secret" of DXing. Included in the appendix is a list of DX bulletins including addresses. These bulletins are as important as the transceiver to the active DXer.

Bob's book is "must" reading for the QRP DXer. As a matter of fact, *The Complete DXer* should be read and reread by all QRP operators, whether interested in DXing or not. This book teaches the radio operator *how* to listen — an acquired technique that is crucial to success, especially in the QRP arena. Reading and applying the techniques in the book will improve operating habits across the board. Whether your enjoyment of QRP comes from ragchewing on 40M, busting pile-ups on the low end of 20M or contesting, if you digest and practice the techniques and philosophy Bob puts forth in his book, you will become a better operator. DX, contrary to popular opinion, is a gentleman's game. Granted, the policemen and jammers cast dubious shadows on the DXing arena. However, DXers are a close-knit group eager to welcome the new-comer and assist the old-timer alike. Bob's book puts all this in perspective. *The Complete DXer* would make a terrific gift for any QRPer.

Taking advice from Bob's book, I recently had the experience of actually busting a pile-up on a semi-rare DX station. Joe, KP2BL in St. Croix, had been handing out QSOs at a pretty good clip for about a half hour. I had studied his habits and found him to be listening on the lower side of his frequency. This is somewhat unusual but not unexpected. Sliding the VFO down several hundred hertz I found the station that Joe was in QSO with. After several attempts at bumping heads with the QSO stations on frequency, I tried a trick right out of *The Complete DXer*. As KP2BL signed over to the next station, I slid in "QRP de K7YHA" right over the top of the other station. I knew my 2W was not going to bother the QSO in progress, but it would serve to alert Joe that a QRP station was on frequency wishing a QSO. Sure enough, I was the next station that KP2BL called and within a few moments I had

a new country in the log book.

This tactic worked so well, I have used it successfully several times since. As a matter of fact, KP2BL was running a pile-up on 10M (about 2 days after my QSO with Joe on 20M) and I snagged him again. After giving me a 589 report, Joe proceeded to put the pile-up on hold and we had a nice QSO in the middle of the fracas. Operators like Joe, who are willing to stand by for QRP operators, are to be commended for their perseverance and good operating habits.

My DXCC totals (as of Oct. 7): 35 worked and still waiting for the cards to start coming in. The idea of starting over on DXCC was intriguing. Since several of my log books and almost ¾ of my QSL cards were lost in the move from Virginia to Pennsylvania, it was obvious that if I were ever going to hang DXCC wall paper I would have to start over from scratch.

In 1988 we moved into downtown Wilkes-Barre from the Back Mountain area but no "real" antennas were ever erected. Once I had procured the Butternut Butterfly Beam for review, I was prompted to seriously think about getting on HF with a vengeance. After building the Heath HW-9 QRP rig and networking with several HW-9 owners who had improved the performance of the radio, I was determined to use the new rig and antenna to get back into QRP DXing.

The HW-9 works well but is still awaiting the IF filter mod. Currently I'm using the Ramsey Electronics CW-7 CMOS keyer (built from a kit) to key the QRP rig. This kit was a real pleasure to build and only took a couple of hours. The Ramsey keyer is not a memory keyer (I have the CW Keyboard for that) but is a no frills ditmaker that is very reliable. It worked the first time and is powered by a 9V battery, so portable operation is possible. The Bencher BY-1 paddles really make CW a joy to send.

Ramsey Electronics, Inc. (793 Canning Parkway, Victor, NY 14564) offers a whole range of QRP transmitter and receiver kits which will be the topic of another QRP column in the near future. It is refreshing to see that someone is interested in marketing QRP kits and I will do my best to review several of these kits and present the results in this column.

Don't forget that I have made arrangements to copy *The Hotwater Handbook*, first edition (non-copyrighted), in its entirety for anyone interested in obtaining HW-8 mods. I will pass these along at cost plus shipping ($6 plus 75¢ first class postage). Send a check or money order to me at P.O. Box 522, Dallas, PA 18612-0522.

This column will appear just before the New Year so that means the G-QRP-Club's Winter Sports will be *the* contest for December. Starting on "Boxing Day" (the day after Christmas in the UK) and ending on New Years Day, the Winter Sports is a great little contest that will ensure some "across the pond" QSOs with QRPers in Europe. Look for G-QRP-Club members on all the standard QRP frequencies and remember their 40M CW QRP frequency is 7030 kHz. 73s, Rich. Merry Christmas and Happy New Year to all of you! □

Carry your HT

A female Amateur with an out-of-town friend, upon exiting her van to do a bit of sightseeing, inadvertently locked her key in the van. Fortunately, she had her hand-held in her purse.

She called her husband and explained the problem. He said he would be there in about half an hour. In the meantime another Amateur heard her, drove to the scene with a slim-jim and got the van door open for the duo.

The point: Always take your hand-held with you. You never know what form the emergency will be when you need it. □

CONSTRUCTION

A Field Day emergency package antenna

JOE ROGERSON, N4XPZ

This article describes an antenna intended for easy transportation to a Field Day or other emergency communication site and quick erection by not more than two men. It gives good results on all bands, 10 through 40M, and can be used (with somewhat lower efficiency) on 80M.

Having taken part in a large number of Field Day exercises, I have never been particularly impressed with dipoles erected by throwing or otherwise propelling a rock or other weight up over the branches of a couple of nearby trees. Yagi beams are OK but require a truck to transport or a lot of time on site to assemble, and then are usually limited to one band. A vertical antenna seems promising, but without an extensive ground radial system, it usually falls flat on its face when asked to perform.

We felt the answer might be a vertical system requiring no radials, one that would work on several bands. The results of our experiments showed that an antenna that is essentially 1/2 of a vertical 8JK (Kraus) worked the best.

The antenna was made easily transportable by making it from sections of heavy-wall aluminum EMT, no section being longer than five feet. The top 10 feet are of 3/4 inch (US pipe size). The next 10 feet are of one inch. Then there is a section only one foot long of 1¼ inch size, used as a means of securing to the insulating section of one inch thick wall PVC pipe. A 5 ft. base section of 1¼ inch aluminum pipe is used to raise the antenna base to that height above the ground. Note that the two 5 ft. lengths of pipe, comprising each of the 10 ft. sections, are coupled together with standard, screw threaded pipe couplings made of the same aluminum stock, while the connection between the two different sizes of pipe are made by slipping the 3/4 inch pipe into the end of the 1 inch pipe a short distance.

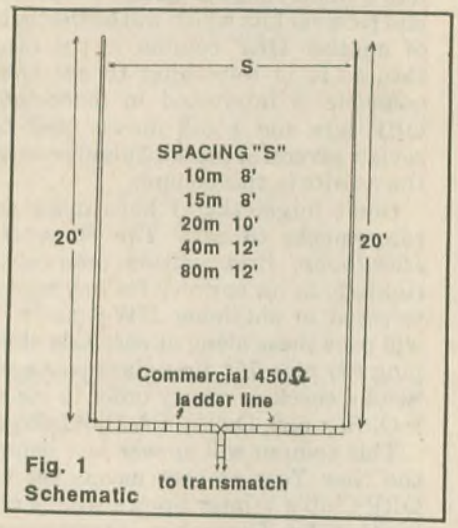


Fig. 1 Schematic

The antenna is easily transportable

This joint is then made secure by drilling a clearance hole for and inserting a 3/16 inch bolt equipped with a wing nut. The OD of the 3/4 inch EMT and the ID of the 1 inch EMT are such that they fit quite nicely into each other. The burrs caused by the drilling operation must be cleaned up, or these sec-

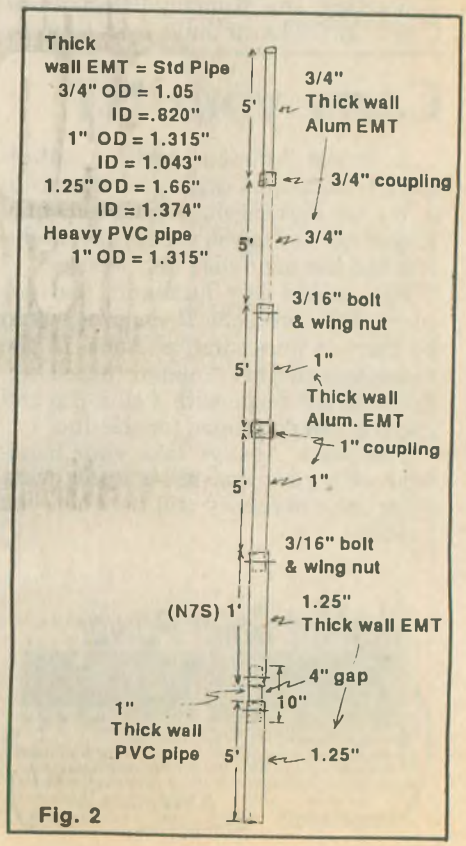


Fig. 2

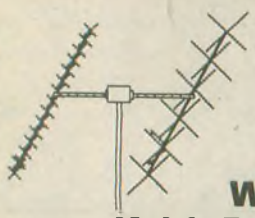
tions may be hard to take apart. Likewise, the end of the 1 inch pipe is slipped a short distance into the end of the 1¼ inch pipe and secured in the same manner with a 3/16 inch bolt and a wing nut.

We did not intend this antenna for any long term use out in the weather, so no selection of hardware was made with the idea of avoiding electrolysis. The base section was secured to the ground by simply placing the end of the pipe over the protruding end of a 4 ft. ground rod. The ground rods were especially equipped with a strong handle-like arrangement to facilitate easy removal from the ground.

This antenna was field tested by the Macon (GA) Amateur Radio Club station, W4BKM, on Field Day in 1988 and 1989 and gave a good account of itself. It was fed with commercial 450 ohm transmitting twin-lead (ladder line) and a homebrew transmatch. Results were at least as good — sometimes far better — than those obtained with a dipole in the trees. Successful contacts were made on all bands (10, 15, 20 and 40M), including several DX contacts with good signal reports. □

With all this cable, there must be an antenna somewhere!

Amateur Satellites



WB5ZDP
Keith Berglund

Gosh, when I made the offer of sending a printout of when RS-10/11 would be over the QTH of those who do not have a computer, I didn't think that I would get *that* many responses. Well, I'll make the same offer again; If you don't have any kind of computer, and you would like a schedule of when RS-10/11 of DO-17 will be over your QTH, just send an SASE (with two stamps) and I'll get one off to you. I believe that if you can hear a few satellite passes, then you'll do what it takes to get on the birds yourself.

As promised last month, here's a full report of what went on at the AMSAT annual meeting and space symposium held at the Johnson Space Center in Houston, Texas, October 19-21. These meetings are where the future of AMSAT and the Amateur space program is formed, cussed and discussed. Participants from nearly every state and over 15 countries gathered to give presentations and hear the latest satellite information.

The symposium informally started on Friday morning with the attendees showing up one by one. It was nice to see the faces behind the articles and the voices of all of those HF nets and OSCAR-13 QSOs. The first presentation began on Friday afternoon with Dr. Jeff Wallach, N5ITU, giving an excellent talk on the latest in Satellite image processing. These guys specialize in gathering pictures from space that are sent to Earth by Amateur, weather and even some military satellites. The quality of the Earth images that can be displayed on a VGA computer screen is amazing. The process does not seem too complicated and the equipment is priced at far less than an HF rig. this kind of information may be good material for a future **Worldradio** column.

Next, Dick Campbell, N3FKV, gave an interesting account of AMSAT's orbital data management. If you copy the latest Keplerian elements from a packet BBS, phone BBS, Amateur Satellite Report or an HF or VHF net, you have this man to thank. The Keplerian elements are first generated by NORAD, which is responsible for tracking everything in orbit. NORAD then gives this information to NASA, which makes it available to anybody who requests it. Mr. Campbell gets the elements in a rather unreadable format call the "NASA 1-line format." He converts them to the AMSAT format and then edits them for information which would be of interest to radio Amateurs. They are then distributed to the general Amateur public as previously described.

Saturday morning began with Gould Smith, WA4SXM, giving an excellent presentation on the decoding of Amateur satellite telemetry. If you read the Amateur Satellites column in the April, 1990 edition of **Worldradio** on the decoding of RS-10/11 telemetry, you've got a hint of how this is done. Each and every satellite flying has a telemetry beacon which provides the ground control stations with information such as spacecraft temperature, battery voltages, transmitter power and other vital parameters. Though RS-10/11 sends its telemetry via CW, most send it digitally. With commonly available modems and software, the telemetry is decoded, displayed and constantly updated right on your computer screen.

Jan King, W3GEY, and Bob McGuire, N4HY, gave an interesting and detailed account on the in-flight performance of the four AMSAT-NA Micro-Sats launched earlier this year. OSCARs 16, 17, 18, and 19 are all doing well. Jan reported that all spacecraft have achieved a 7161 km nearly circular orbit. Each of the spacecraft's solar cells arrays are working as expected and the power budget for all of the transmitters, receivers and computers is as expected. The store and forward packet software loading is not yet complete. However, one of the strengths of the Micro Sats is that the software can be reconfigured and uploaded to the satellite as required.

One of the most powerful presentations was presented by Dr. Tom Clark, W3IWI, on the orbital problems and eventual demise of OSCAR-13. It seems that some very sophisticated computer analysis has indicated that AO-13 will re-enter the Earth's atmosphere sometime in 1997. This problem was totally unanticipated by anybody when the satellite was launched. AO-13 was launched into a highly elliptical orbit having an apogee of 38,000 km and a perigee of 2,500 km. At this height, it was thought that the bird would be in orbit virtually forever. Recently, however, it has been noticed that AO-13's perigee has been creeping lower and lower with the present perigee being on the order of 1500 km.

The computer model used to come to this conclusion was run on a Crey super computer using a tracking algorithm that takes into account the gravitational differences of the Earth as well as the gravitational effects of the sun and moon. Dr. Clark emphasized that these findings are still preliminary and that more research needs to be done. In any event, even if AO-13 does come crashing down in 1997, the new Phase III-D satellite will surely be in orbit by then.

In my opinion, the most interesting presentation given reviewed the latest design and development concerning the Phase III-D satellite. This bird will be the next generation high altitude satellite and will be, in effect, a "Super OSCAR." The talk was given by Dr. Karl Meinzer, DJ4ZC, and discussed the development effort to date of Phase III-D. The satellite will hopefully be launched in two or three years by the European Space Agency from their launch complex in Korou, French Guyana. The proposed orbit will place the satellite in an elliptical orbit much like OSCAR-13's, except that they are shooting for an orbital period of exact-

ly two orbits per day. If this can be achieved, the satellite will be in view in exactly the same place at the same time every day.

The frequencies of the transponders that will be included are still being studied. It is a near certainty that Modes L and S will be on board and the inclusion of Mode J and some mode using 5.7 GHz is being studied. The shape of the spacecraft is now proposed to be a cube about 1.3 meters per side. The solar panels will be able to move so as to collect the maximum amount of sunlight. Figure 1 is a rough sketch of the proposed spacecraft geometry.

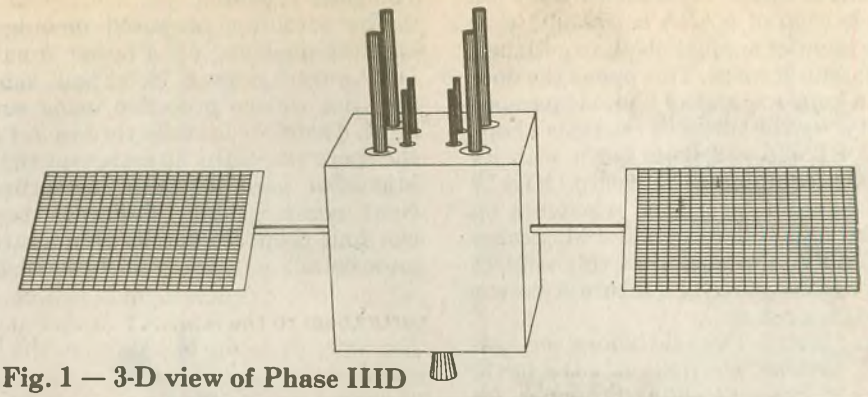


Fig. 1 — 3-D view of Phase IIID

As a logical next presentation, Dick Jansson, WD4FAB, gave a report on the progress of the engineering development of Phase-4 technology. A Phase-4 satellite will be the first geostationary Amateur satellite. The main point of this presentation was that, due to the tremendous cost of a Phase-4 type mission, perhaps it would be best to work towards the more attainable goal of launching Phase-III-D. Fortunately, much of the research that has gone into Phase-4 development is applicable to Phase-III-D. Mr. Jansson, Dr. Meinzer and a host of other AMSAT officials from around the world recently attended a meeting in Marburg, Germany to discuss the Phase-III-D development. All agreed that the Phase-4 engineering technology will be very useful.

One of the proposed transponders that may be carried aboard a Phase-III-D or a Phase-4 satellite would be a digital video transponder. Dr. John Champa, K8OCL, gave an interesting presentation showing just how this may be done.

Without a doubt, sending a full bandwidth analog video from 23,000 miles distance is out of the question for any foreseeable Amateur satellite and too costly for most Amateur ground stations. The solution is to digitally compress the video to the maximum possible extent and still have an "acceptable" picture.

At 64 Kbps the picture is a bit jerky, but certainly visible. This bit rate is only six or seven times faster than some terrestrial packet radio links (9.6 Kbps) and is quite achievable on any PC. It is envisioned that one would hook up a video camcorder type camera to a card that would plug into an expansion slot of your PC. The signal would then be routed to your radio and then uplinked to the satellite in the traditional manner. On the receiving side the process would be reversed.

One of the most visible parts of the Amateur space program is the SAREX program. SAREX stands for Shuttle

Amateur Radio Experiment. There is a whole crop of NASA astronauts that now have (or are just about to get) their Amateur licenses. This opens the door for a huge amount of ham-in-space activity. By the time you read this I hope that STS-35 will have flown with its packet equipment on board. STS-37 will have at least four Amateurs on board and will carry 2M FM, packet and ATV. I'm sure that this subject will be the source of a future Amateur satellites column.

And last, as I've said before, the AMSAT national convention is the birthplace of future satellites. Of course, for every twenty satellites proposed, only one (*may*be) will ever be launched, but you gotta dream!

The satellites proposed include a satellite deployed off a tether from a Delta second stage, a "Solar Sail" satellite that will be propelled using sunlight, a satellite literally thrown out of the space shuttle by an astronaut and a Micro-Sat used to study meteorites. Next month I think I'll discuss these last four proposed satellites in a little more detail. □

Watch those decibels — they eat power!

HERBERT LIPSON, W8FBH

What's a dB? It's basically a ratio between one level and another. However, because of the mathematics (which we will skip for now), voltage or current ratios are expressed in twice the number of dBs as power ratios.

Let's examine the power dB as we use it in our hobby of Amateur Radio.

Fact 1: A power change of 3dB up or down is the *least noticeable* change that can be detected by the human (or vulcan) ear or at the other guy's receiver input. *Fact 2:* In order to make a plus 3dB change, you must *double your power, no matter where you start!*

Let's digest this for a moment. If your rig has a 1W output, you will get a +3dB gain if you go to 2W. But also — and here is where the confusion comes in — if you already have, say, 20W out and you tweak everything to get 25W out, you have gained very little at the input of the other guy's receiver.

Remember Fact 1: To make the least noticeable change you must raise your power 3dB. Fact 2 states that you must go to 40W for this! So why risk burning up your output transistor for a few extra watts that nobody notices?

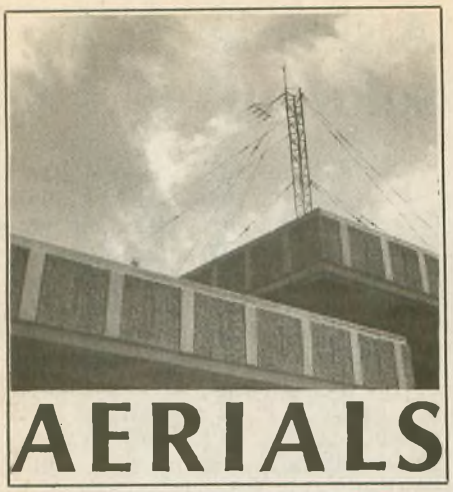
Suppose you now have a perfectly good 50W amplifier and have a chance to upgrade it to 80W by a shrewd swap and some green stamps. But your first NOTICEABLE change would need to be 100W. You have gained very little by moving to 80W!

It works the other way too. If you use an old crummy piece of coax cable to feed your antenna and have a 3dB loss through the cable, you have lost half your power. On the other hand, if you improve your antenna system, you can get the effect of higher power.

For instance, if you install a 6dB antenna instead of the basic quarter-wave, the received signal is the same as if you raised your output power four times. Put a 6dB antenna on a 50W amplifier and the receiver thinks you have increased to 200W!

So take it easy! Don't beat up your rig for the sake of a few percent increase in output. You might feel better about it, but it won't be detected at the receiving end. If you are in the fringe areas and need more power, investigate the use of a better antenna and use a good quality of coax cable to feed it.
—Midland ARC Inc., MI □

HAPPY HOLIDAYS



AERIALS

I like Lakeview! Their printed matter is the straight scoop and their antennas are really good.

The company is in Anderson, South Carolina and they sent me (through the Worldradio offices) their new Carolina Bug Katcher. It's a mobile antenna, 7½ feet long, handles a kilowatt and sells for $79.50 plus $4 shipping and handling.

I put it up in the back yard, ran a ground wire to a water faucet and entered the October Classic, *CQ's* WW DX Contest.

In a few minutes I had a bunch of countries on three continents. Two DX zones in two minutes, then three DX stations in three minutes. This is with less than 100W, thus moving up and down the band calling the CQers.

This was too easy. I like more of a challenge, so I took down the $80 antenna and put up Lakeview's $16 monoband mobile antenna.

Now, Lakeview says the use of the ultra Hi Q coil on the Carolina Bug Katcher makes it much better than their Ham Stick.

Well, anybody can work DX with an $80 antenna! I want to do it with a $16 antenna, which is about one percent of what a moderately good station has invested in its antenna system.

I worked from the Caribbean to the far reaches of the Pacific, and from lower South America to the ends of the earth.

I wasn't top dog in the pileups and there were moments of frustration but a whole lot of stations snapped right back on first call.

About the best I did was five stations in five minutes in zones 15 and 20 (I had to stop and rest). Obviously, to be able to move up and down the band in hunt and peck fasion and get five stations in five minutes, I am not getting beat up by anyone or standing in long lines to work the stations. (I am being purposefully vague on times, bands and call signs because I don't want those CQ boys to run all their computer tapes back and forth and figure out who I really am.) Actually, I might even have had better runs but these days, different from yore, I go out and have leisurely lunches, take Lil to dinner and generally avoid the regimen necessary to run up the big score. (Or as big as possible with mini firepower.) And I even stop and listen, with admiration, to some of the fine operators (ahh, youth). (9Y4VU, OM5W, PJ1B, 8P9X and of course, VK9NS were among the smoothest of the smooth operators.)

Usually, when running small antennas you answer the big signals, but with the Lakeview Ham Stick I found some weaker signals answering.

Did get all JA districts. And I consider it a success in these mini efforts if one makes WAC.

Thus, those who are prevented from putting up an antenna, for one reason or another, can certainly pop one of these 7 ft. Ham Sticks in the back yard when you want to get on the air.

If you don't have room for radials (even a bunched-up wad) Lakeview has a bracket where you can put two of the sticks together and make a 14 ft. dipole for the band of your choice (75 and up).

The information sent out by Lakeview regarding the truth about mobile antennas (by Don Johnson, W6AAQ, — I read his book, it's a good one) is alone worth buying anything from Lakeview. To receive this information, just order one of their products or send for the catalog at Rt. 7, Box 258, Anderson, SC or call 803/226-6990.

Nobody at that company would know me if they saw me, and I can thus tell you that I ain't on the take. I just think they are one of the best around; they do a great job!

I'm writing this just a few days before Phone Sweepstakes. Got another antenna to potch about with. You'll get a report.

Got a slew of very interesting items coming up in the future columns.

Thanks for all the interesting letters. A.D., you're a real gas. I will be presenting and commenting on some of the hard copy.

(All letters and packages addressed to Kurt are first opened at Worldradio to see if they contain two-dollar bills or 25¢ cigars before they are forwarded. This is one of the reasons for his anonymity. No one can even buy him a hamfest hotdog in an effort to curry favor.) □

I WONDER IF LOADING THE FLAGPOLE UP AS AN ANTENNA WILL BOTHER SPOT

Doors will open at 9 a.m. Admission is $2 (or three for $5) in advance or $3 at the door.

Flea market tables are available for $12, which includes one admission; additional tables will be $9 each. Set-up will be from 5-9 p.m. on Friday and at 8 a.m. Saturday morning.

Talk-in on 146.25/85 or 146.52 simplex.

For further information contact Gordy Miller, WA0ZOG, at 816/635-5171 or send an SASE to NW Missouri Winter Hamfest, P.O. Box 182, Cameron, MO 64429. □

ARRL Great Lakes Division Convention

The ARRL Great Lakes Division Convention for 1991 will be held on Saturday and Sunday, Feb. 23 and 24 at the Cincinnati Gardens Exhibition Center in Cincinnati, Ohio.

Doors will be open from 8:30 a.m. to 5 p.m. both days. Admission is $6 in advance (by Feb. 16) or $8 at the door. Major prizes will be given away.

Accommodations are available at the Quality Inn Central in Norwood (513/351-6000).

For information and exhibitors' rates contact Stan Cohen, WD8QDQ, at 513/531-1011 or Joe Halpin, W8JDU, at 513/851-1056. □

Missouri

Three northwest Missouri radio clubs will sponsor the first annual NW Missouri Winter Hamfest on January 12 at the Tri-Rivers Expo Hall in Cameron.

New York

The Metro 70 cm Network will sponsor an electronics fair and giant flea market on Jan. 20 at Lincoln High School in Yonkers.

Rain or shine, doors will open to the public at 9 a.m. Admission is $4. Tables are available for $15; full payment for table reservations must be received before Jan. 10.

Featured will be Amateur gear, computers, VE exams, hourly prizes, free frequency checks, free parking, refreshments and free coffee.

Talk-in on 440. 425R/445.425T, PL 74.4 Hz and 146.91OR/146.31OT.

For further information contact Otto Supliski, WB2SLQ, 53 Hayward St., Yonkers, NY 10704; 914/969-1053. □

A simple solution

OH, PLEASE! DO I HAVE TO?

Ever make an autopatch to a law enforcement number? After you have passed your traffic, quite often they will ask your name, address and telephone number. Quite often, we do not want to give that information over the air, but not doing so may cast suspicion on the credibility of your information.

I recently tried something while making such a call and I was very pleasantly surprised by how well it worked for me. When the question was popped, I said, "Please copy my Ohio DL number XXXXX." The dispatcher said thanks, I said thanks and that was it.

Now I have my Ohio Drivers License number written down on a card with my emergency autodial numbers. Use this and they've really got your number. — *Lake County Amateur Radio Association, Painesville, OH* □

Triumph is just umph added to try. — *Orleans County ARC, Albion, NY*

New Hampshire QSO Party

The 1991 New Hampshire QSO Party, sponsored by the New Hampshire Amateur Radio Association, will take place from 1900 UTC Feb. 2 to 0700 UTC Feb. 3 and from 1400 UTC Feb. 3 to 0200 UTC Feb. 4.

Exchange: Signal report and QTH (county for New Hampshire stations, state/VE province/DXCC country for others).

Scoring: All stations count one point per phone QSO, two points per CW/RTTY QSO and five points per Novice/Tech CW QSO. New Hampshire stations multiply QSO points by number of New Hampshire counties/states/VE provinces/DXCC countries (except United States, Canada, Alaska and Hawaii) worked; others multiply QSO points by number of New Hampshire counties worked (maximum of 10). No repeater QSOs permitted. Stations may make contact on more than one band or mode.

Twenty bonus points may be added to your final score for contacting each of the following NHARA member club stations: WB1CAG, NY1Z, W1GUA, W1WQM, WB1HBB, WB1FZZ, NS1S, WK1P, NE1K, N1LT, K1BKE, W1OC (for a maximum of 240 bonus points).

Suggested frequencies: *CW*—1810, 3535, 7035, 14035, 21035 and 28035; *Phone* —1875, 3935, 7235, 14280, 21380, 28380, 50115 and 144205; *Novice*—3735, 7135, 21135, 28135 and 28380 (SSB).

Awards: Certificate to highest scoring station (5 QSO minimum) in each New Hampshire county/state/VE province/DXCC country. Logs must be postmarked by March 18, 1991. Include a large SASE for results. Send logs and comments to: Mount Moriah Repeater Society, c/o Bud Valcourt, NY1Z, 19 Teague Dr., Salem, NH 03079.

Summary sheets and a complete set of contest rules are available by sending an SASE to KI1M, 19 Haverhill St., Hudson, NH 03051-4015. □

Vermont QSO party

Sponsored by the Central Vermont Amateur Radio Club (W1BD), the party will be from 0001Z Feb. 2 to 2400Z Feb. 3.

Suggested frequencies: *Phone* — 80 to 15M; The first 25 kHz up from the beginning of the General phone band edge; Novice 10M phone portion; 50.110 and 144.2. *CW* — 3540, 3720, 7040, 7120, 14040, 21040, 21140 and 28040. *RTTY* — 3620 and 90 kHz from lower edge of other bands.

Exchange: Vermont stations send RS(T) and county (CW two letter county designators — AN, BN, CA, CN, EX, FN, GI, LA, OG, OL, RU, WA, WM and WR). Other stations send RS(T) and state, province or ARRL country.

Scoring: Vermont stations — one point per phone contact; two points per CW or RTTY contact. Multiply by number of Vermont counties + states/Canadian Provinces/ARRL countries (non-W/VE). Add 20 bonus points to total score for working W1BD. *Other stations* one point per phone contact; two points per CW or RTTY contact. Multiply by number of Vermont counties. Add 20 bonus points to total score for working W1BD.

Rules: A station may be worked three times per band; once each on phone, CW or RTTY sub-bands. Duplicate and repeater contacts invalid. W1BD may be worked on each different band for bonus points.

Awards: *Non-Vermont:* Certificate to highest-scoring station in each state, province and country (non W/VE). *Vermont:* Certificate to each station submitting a log. Plaque (annual) to highest scoring Vermont station. Special certificates for highest scoring stations in CW, RTTY, HF PACKET, SSTV, etc. W/VT Award to stations working 13 of Vermont's 14 counties.

Send SASE now for official score and log sheets and one for results. Send logs/facsimiles, name, address, county (Vermont), by March 1, 1991, to: D. Loverin, WA1PDN, 50 Liberty St., Montpelier, VT 05602.

Note: For the purpose of working Vermont counties, 146.52 will be used at 9 a.m. and 9 p.m. EST during the contest. □

YL-ISSB QSO Party

Dates and times: *CW*—0001 UTC Feb. 2 through 2359 UTC Feb. 3, 1991. *Phone*—0001 UTC March 9 through 2359 UTC March 10.

Scope: The party is open to all, though emphasis is on membership participation and member-to-member contacts.

Categories: Single operators, DX/US partners and YL/OM teams.

Exchange: Signal report; state, province or country; name; ISSB number (if member) and DX/US partner.

Scoring: Three points for two-way member contacts within the same continent; six points for two-way member contacts among different continents; one point for non-member contacts.

Multipliers: Only member stations count as multipliers—one for each of the following: working both DX/US partners; each YL/OM team; each US state; Canadian province; DX country; each VK and ZL Call district. Two multipliers counted for running lower power (250W PEP input) throughout the party.

Frequencies: The General portion of the Phone and CW bands. Avoid NET frequencies (14.300, 14.332, 14.336 etc). Check 40/80M on the hour; VHF/UHF simplex only.

Awards: Special certificates to top scorer in each US Call district, VE province and DX country.

Logs containing contact information plus ISSB numbers must be received by April 30, 1991. Address all questions, comments and entries to Fred Kujawa, KØETA, RR 4 Box 213-6, Stockton, MO 65785. □

1990 Worldradio DXathon

ELIGIBILITY: All licensed Amateur Radio operators worldwide. **DATES:** 1 Jan.1990 through 31 Dec. 1990. **BANDS:** Five bands •80 •40 •20 •15 •10 **MODES:** Five modes •Phone •CW •Satellite •Visual (SSTV, FAX) •Digital (includes RTTY, AMTOR & Packet) **OBJECTIVE:** Contact as many Nations via as many different modes as possible. A Nation is defined as an entity with enough sovereignty to issue its own postage stamps. **SCORING:** Your final score will be the total number of Nations worked per mode. You may count a Nation only once per mode. An example of scoring: If you work Japan on CW and SSB on 20 meters, the point value would be 2 points. If you work Poland on CW on 10 meters and 20 meters, the point value would be 1, as a Nation can only be counted once per mode. **SUBMISSIONS:** All entries must be submitted on official DXathon entry forms or a reasonable facsimile and should include call, date, time, band and mode for each entry. Use separate sheets for each mode. QSL cards are not required. In addition, a DXathon Summary Scoresheet should be filled out with your score totals on it. All entries must be postmarked no later than 28 February, 1991. Entries must include your call, name, address and be signed with a declaration that the contacts were complete two-way contacts. Mail all entries to: **WORLDRADIO, 2120 28th Street, Sacramento, CA 95818, USA.** All participants will be listed in Worldradio. Decisions of the DXathon committee will be final. The committee has the right to disqualify an entry for violation of the letter or the spirit of the rules. By submitting an entry, the participant agrees to abide by the decision of the committee. **AWARDS:** Will be given based on the number of entries. 100-point minimum must be accumulated to be eligible for an award. **RULE CHANGES:** Rules may be modified over the years to reflect feedback from the participants. Please send copies of this notice to your DX friends. Send $.45 business size SASE to Worldradio for entry forms and nations list.

Information in "New Products" is supplied by the manufacturers to acquaint *Worldradio* readers with new products on the market.

CW Mental-block buster

A new program guarantees that you can overcome your mental blocks to learning Morse code in 30 days or less. PASS Publishing's CW Mental-Block Buster cassette tape and booklet program bears little resemblance to other code teaching programs that depend on nothing but repetitive copying. Rather, it is a scientifically prepared program that attacks the psychological roots of the mental-block with a combination of visualization, affirmations and auto-suggestion.

PASS Publishing says that in most cases, difficulty with Morse code is caused by faulty thinking patterns. Training people to overcome such erroneous thinking is comparable to teaching people with phobias to overcome them. As long as someone believes he can't copy code, no amount of practice will overcome this block. The CW Mental-Block Buster explodes mental blocks.

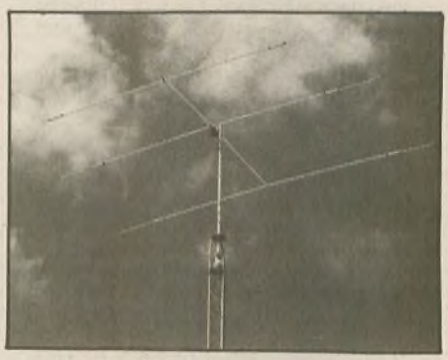
Many people who have difficulty copying code tend to tense up when they hear Morse code. The CW Mental-Block Buster conditions the user to relax when he hears code. Performance naturally increases, and soon copying code becomes fun instead of drudgery. The accompanying booklet teaches the user to set realistic goals, and it contains the secret to the world's best code practice.

Results are guaranteed! After using the program for 30 days, you can return it to PASS Publishing for a full refund if you do not get positive results.

The PASS Publishing CW Mental-Block Buster tape and booklet program is available direct from PASS Publishing, Box 570, Stony Brook, NY 11790. The cost is $19.95 postpaid in the US — NY residents must include $1.50 sales tax. □

WARC bands

Enjoy the excitement of the new HF WARC bands with the A3WS. It is the perfect companion to your existing tribander.



With a sturdy all aluminum design, this WARC beam features pinned boom sections, heavy duty element mounts and all stainless steel clamps. The A3WS is a high performance Yagi on 12 and 17M, offering 8dB forward gain, and with the addition of the A103 add-on kit it will also cover 30M.

The A3WS has a 14 ft. boom, and takes a mast size of 1.5-2 inches making it easy to install on your existing support. The antenna is rated for 2000W PEP and takes standard 50 Ohm coax.

All tubing is heavy wall hard drawn, bright finish aluminum for long life and pleasant appearance.

Assembly is quick and easy from detailed instructions and precision manufactured components.

The A3WS is available through Amateur dealers worldwide.

For further information write to Cushcraft Corporation, P.O. Box 4680, 48 Perimenter Rd., Manchester, NH 03103 or call 603/627-7877. □

Dual-band amp

The RFC 2/70 is a dual-band power amplifier and dual-band receiver pre-amplifier combined as one. If you are operating a 144/450 MHz HT and want extra power for both bands, then the RFC 2/70 is for you.

When HT power output is sensed by either the 2M or 70cm narrow band peak detector, the preamp is switched out and the power amplifier is switched on. The two front panel switches allow for independent selection of the power amp, preamp or both.

The 2/70-525G incorporates two GaAsFet preamplifiers, one for 2M, one for 70cm. The model 2/70-525 is without the preamps. Take your choice.

In addition, the 2/70 amps feature fast coaxial relay switching, op-amp control, and PIN diode protection if the GaAsFets are installed, making the RFC 2/70 amps ideal for packet operation too.

There is a one year warranty on the unit as a whole and a six month warranty on power transistors.

Suggested retail is $269 for the RFC 2/70-525G (with preamps) and $239 for the RFC 2/70-525 (without preamps). To order, call your favorite dealer or contact RFconcepts, 2000 Humboldt St., Reno, NV 89509; 702/827-0133. □

Counter-timer

Optoelectronics Inc. announces a new universal counter-timer for frequency test and measurement. It is battery powered. Operating from sub-audio to microwave, it is claimed to be the smallest, lightest, most cost effective such instrument on the market today.

Opto's new compact Handi-counter model UTC-3000 is designed for use in traditional laboratory benchtop service, as a frequency finder and in a wide variety of field-service applications where two-way radio communication is important including security, law enforcement and the military, broadcast media, electric utilities, ocean industries, airlines, mining and cellular telephones.

Model UTC-3000 is used to measure frequencies, periods, time intervals and ratios of frequencies. Applications include the identification of broadcast frequencies at maximum distance from the source and test and calibration of transmitter frequencies, medical equipment, oscillators and other types of electronic gear. It locates noise sources, serves as a signal strength indicator and satisfies hobby interests as well.

UTC-3000 weighs just 15 oz. and occupies only 30 cubic (5.3 x 3.9 x 1.4) inches, yet it offers an ultra-wide dynamic range from 10 Hz to 2400 MHz, and is useful up to 3200 MHz. No costly options are required to support the performance range.

Three signal-frequency ranges include a direct counting range that goes from 10 Hz to 200 MHz, an internally-prescaled range to 600 MHz (useful to 900 MHz) and a second prescaled range specified to 2400 MHz (useful to 3200 MHz).

UTC-3000's time base is referenced to an internal 10 MHz crystal oscillator with ± 1 PPM accuracy. (An optional temperature compensated oscillator holds accuracy to ± 0.2 PPM). The unit's input-signal gate can be held open for 0.01, 0.1, 1.0 or 10 seconds. This determines the unit's frequency count resolution — up to ten digits.

"This is the smallest, lightest, lowest cost such laboratory instrument on the market today," notes Director of Marketing Bill Owen. "You'd pay ten times more for a benchtop model from a larger company, but it would lack this one's sensitivity. At 300 uV, UTC-3000 features the best sensitivity of any universal counter-timer on the market today."

The unit derives its many features from a proprietary ASIC, and its high sensitivity from state-of-the-art MMICs. It offers two BNC input connectors and two independent amplifiers which present 1M ohm and 50 ohms input impedance. A 16-segment bar graph indicates input signal strength in 3 dBm increments. It has an easy-to-read liquid crystal display, and a selection between internal NiCad battery pack or external 9VAC adaptor-charger. Facia panel switches and buttons control function select, gate duration, input A/B select, display hold, direct/prescale, range and power selections. The unit is housed in a novel aluminum extrusion for maximum EMI/RFI shielding and rugged field use.

Handi-counter model UTC-3000 is priced at $375 complete. Optional TCXO is $80; three-antenna pack is $65; additional battery is $24; vinyl carrying case is $15.

For more information on this and other personal radio frequency instrumentation, contact Optoelectronics Inc, 5821 NE 14th Avenue, Fort Lauderdale, FL 33334; 800/327-5912 or 305/771-2050; FAX: 305/771-2052. □

Yaesu adds new 1.2 GHz radios

The FT-911 is the latest addition to the popular FT-411/811 hand-held series. This compact, lightweight 1W radio has the same basic features as the other hand-helds in the series, such as 49 memories, 2 independent VFOs, built-in CTCSS and DTMF APO (automatic power off). It also features programmable channel steps, backlit keypad and display, 10 memory auto-dialer, one-touch instant channel recall, 10 battery-saving sampling rates and PTT/keypad lock. Also included are a CSC-35 vinyl case, NC-28B 117 VAC wall charger, belt clip and FNB-17 battery.

FT-911

A suggested retail price of $505 has been established.

The FT-912RH is the mobile 1.2GHz version that has been added to the FT-212/712 series. This mobile delivers 10W of power output and has the following features: 18 general purpose memories, one-touch call channel memory, two scanning range memories, CTCSS encode on any of the 37 standard tone frequencies which may be programmed into any memory channel, programmable scanning selectable tuning steps, CAT system control, amber backlit LCD display and optional digital voice system (DVS-1). Microphone with DTMF is standard.


FT-912RH

This mobile was introduced in early October at all Yaesu dealer stores with a suggested retail price of $581.

Yaesu U.S.A. is a wholly-owned subsidiary of Yaesu Musen Company, Ltd., which designs, manufactures and markets Amateur Radio equipment and commercial land mobile two-way radio equipment worldwide. □

HERE, TRY LOOKING AT IT FROM THIS ANGLE AND SEE IF YOU DON'T AGREE--- THAT L.E.D. READOUT IS UPSIDE DOWN!

Station antenna

Spi-Ro Manufacturing, Inc. is now offering a High-Performance 2M base station antenna that offers 4.5 dB gain with an omnidirectional pattern.

The VHF-45 covers 144-174 MHz and requires no ground plane or radials. It has heavy duty construction with 6061-T6 seamless aluminum and all stainless steel hardware for years of maintenance free service.

The VHF-45 will handle 250W; 50 ohm impedance, and is DC grounded for lightning protection.

The 4.5 dB gain feature more than doubles the transmitter output power (effective radiating power) and more than doubles the receiver sensitivity!

It is available for $89.95 postpaid within the US. For further information contact Spi-Ro Manufacturing, Inc., P.O. Box 5500, Dept. 102, Lakeland, FL 33807; 813/646-7925. □

Data engine

High speed packet? The new Kantronics Data Engine is the answer. Speeds in excess of 56kb on each of the two radio ports are possible with proper modems — perfect for that user/backbone gateway or dual ported BBS operation.

It is based on the NEC V40 processer (PC family) with software and hardware developer manuals available.

For further information write to Kantronics, 1202 E 23rd, Lawrence, KS 66046 or call 913/842-7745. □

THE 1991 QSL BOOK!

Extending a 70 year tradition, we bring you three new Callbooks for 1991, bigger and better than ever! The North American Callbook, the International Callbook, and the new Callbook Supplement bring you accurate up-to-date QSL information on over 1,000,000 amateurs throughout the world.

The North American Callbook lists the calls, names, and address information for over 500,000 licensed radio amateurs in all countries of North America from Canada to Panama, including Greenland, Bermuda, and the Caribbean islands plus Hawaii and the U.S. possessions.

The International Callbook lists over 500,000 licensed radio amateurs in countries outside North America. Its coverage includes South America, Europe, Africa, Asia, and the Pacific area (exclusive of Hawaii and the U.S. possessions).

The 1991 Callbook Supplement is a new idea in Callbook updates, listing the activity in both the North American and International Callbooks. Published June 1, 1991, this combined Supplement will include thousands of new licenses, address changes, and call sign changes for the preceding 6 months.

Every active amateur needs the Callbook! The 1991 Callbooks will be published December 1, 1990. Order now for early delivery as soon as the new books are available. See your dealer now or order directly from the publisher.

- Over 1,000,000 current amateur listings in all countries of the world • Telegraph Codes
- Then & Now call changes • Silent Keys • Census of Amateur Licenses in all countries
- Standard Time Charts • International Postal Information • World-wide QSL Bureaus
- Table of Amateur Prefix Allocations • Prefixes of the World • Plus many other features.

Publication: Callbooks - December 1, 1990
Supplement - June 1, 1991

	Including shipment to U.S.A. points	Illinois residents, incl. tax & shipping	Including shipment to foreign countries
☐ RC0191 Single 1991 North American Callbook	$33.00	$34.90	$39.00
☐ RC0291 Single 1991 International Callbook	33.00	34.90	39.00
☐ RC0391 Single 1991 Callbook Supplement	13.00	13.65	14.00
☐ RC01912 SPECIAL OFFER: Order both 1991 Callbooks at the same time for shipment to one address.	63.00	66.80	73.00

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Tel: (708) 234-6600

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VE exam schedules

As a service to our readers, Worldradio presents a feature listing those VE exams, times and locations which are sent to us. Please remember that our deadline for publication is two months in advance. For example, if your VE group is scheduling an exam for September, please have the information to us by mid July.

Worldradio, 2120 28th St., Sacramento, CA 95818.

Please mark the envelope "VE Exams."

List the location, and information examinees should have (advance registration, etc.) and the name and telephone number of a person to contact for further information.

p/r = pre-register w/i = walk-in

Date	City	Contact	Notes
Arizona			
Feb 2	Tucson	K7OPX (602) 886-7217	w/i
California			
Feb 3	Chico	W6YKU (916) 342-1180	p/r pref; w/i OK
Jan 12	Hesperia	NF6I (619) 241-4732; K6BET (619) 244-6080	w/i OK
Jan 12	Long Beach	NN6Q (213) 420-9480	w/i
Jan 5	San Dimas	K6THQ (714) 596-9383	p/r 1 week prior
Jan 12	San Marcos	(619) 465-EXAM	p/r
Jan 12	Santa Barbara	KB5AH (805) 682-2665	w/i
Feb 2	Concord	WW6H (415) 254-5090; WA6AEO (415) 676-8239	w/i
Colorado			
Jan 14	Boulder	Barbara McClune (303) 530-2903	w/i
Jan 19	Westminster	NØCFM (303) 451-1231; NØHNR (303) 278-4280	p/r or w/i
Connecticut			
Jan 27	Milford	NB1M (203) 933-5125; WA1YQE (203) 874-1014	w/i
Idaho			
Jan 12	Boise	W7JMH (208) 343-9153	w/i
Illinois			
Jan 19	Loves Park	W9SS (815) 877-6768	p/r; w/i
Jan 12	Oak Forest	KA9HDN (312) 247-0650	w/i
Iowa			
Jan 20	Des Moines	NAØR (515) 964-0900 or (515) 967-3890	w/i
Maryland			
Jan 26	Laurel	(301) 572-5124	p/r pref; w/i
Massachusetts			
Jan 19	Melrose	WB1F (617) 322-7654	w/i
Mississippi			
Jan 8	Ocean Springs	AA5TX (601) 875-2142	w/i
Nevada			
Jan 19	Minden	W7QO (702) 265-3430	w/i
Jan 12	Reno	WS2Z (702) 826-6028	p/r or w/i
New Jersey			
Jan 19	Bayonne	WA2QYX (201) 451-9471	w/i OK
Jan 7	Sayreville	K2FD (201) 442-9215	w/i
Jan 12	Cranford	N2XJ (201) 635-7686	
New Mexico			
Jan 26	Las Cruces	KAØYOS (505) 523-8958	
New York			
Jan 9	Albion	WA2QDV (716) 798-0976	w/i
Jan 27	North Babylon	KA2RGI (516) 957-0218	w/i OK
Pennsylvania			
Jan 3	Philadelphia	ND3Q (215) 482-0386	w/i OK
Jan 7	Pennsburg	K3ZXQ (215) 679-5764	
South Carolina			
Jan 19	N. Charleston	AA4IX (803) 873-9465	w/i
Texas			
Jan 19	DFW Airport	KF5BL (214) 252-8015	w/i
Jan 12	Eddy	N5KZD (817) 859-5374	w/i
	Midland	KT5G (915) 694-9450	w/i OK
Jan 17	Sherman	AA5PP (214) 786-2644	w/i OK
Virginia			
Jan 5	Chesapeake	KC4YX 424-4764	
Wisconsin			
Feb 2	Racine	NW9P (414) 658-8390	

When will AMSAT-OSCAR-13 be in range?

ROSS FORBES, WB6GFJ

Those just starting out in the world of OSCAR communications would like to know when they can hear a satellite. The following charts are produced to give you a rough idea as to when OSCAR-13 will be within range of your location. The three charts as printed are centered on the following geographic locations: East = New York City; Mid = St. Louis, MO; West = Reno, NV.

As you read the chart nearest your location, keep in mind the following details — all dates and times are given in UTC. The date is printed on the left hand column and the UTC hour along the top.

A dash mark indicates the satellite is out of range and therefore not able to be heard. The letter "B" indicates OSCAR-13 is audible at that location and signals should be heard between 145.810 and 145.880 MHz (SSB and CW). A letter "O" indicates the satellite is audible, but the only signal you will hear is the telemetry beacon on 145.810 MHz. The letter "L" indicates the satellite is audible but you will hear signals between 435.650 and 436.000 MHz (SSB and CW).

Remember, if a letter is printed on the chart, you should be able to hear OSCAR-13.

For more information about OSCAR, please send a SASE to either of the following: Project OSCAR, P.O. Box 1136, Los Altos, CA 94023-1136; AMSAT-NA, P.O. Box 27, Washington, D.C. 20044. □

Station East

HOUR - UTC

```
     0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
2/01 ---------BBBBBBBBBBBBBLLLLLBBBBBBBBBBBBBBb-------------------------
2/02 ------BBBBBBBBBBBBLLLLLBBBBBBBBBBBBBb----------------------------
2/03 ---BBBBBBBBBBBLLLLLBBBBBBBBBBBBBb---------------------------------B
2/04 BBBBBBBBBBLLLLLBBBBBBBBBBB-------------------BBBBBBBBB--------BBBB
2/05 BBBBBBBLLLLLBBBBBBBBBBBBBb----------BBBBLLLLLBBBBBBBBBBB--------BBBB
2/06 BOBBLLLLLBBBBBBBBBBBBB-------BBBBBBBBLLLLLBBBBBBBBBBBb---------BBBBB
2/07 BLLLLLBBBBBBBBBBB------BBBBBBBBLLLLLBBBBBBBBBBBb----------BBBLLL
2/08 LLLBBBBBBBBBB------BBBBBBBBBLLLLLBBBBBBBBBBBb------------BLLLLLB
2/09 BBBBBBBBB------BBBBBBBBBLLLLBBBBBBBBBBBb---------------LLLBBBBB
2/10 BBBBB--------BBBBBBBBBLLLLLBBBBBBBBBBBb-----------------BBBBBBB
2/11 B---------BBBBBBBBBLLLLBBBBBBBBBBBb-------------------BBB-----
2/12 -------BBBBBBBBBLLLLBBBBBBBBBBb-----------------------------
2/13 ----BBBBBBBBBLLLLLBBBBBBBBBBb-------------------------------B
2/14 BBBBBBBBBLLLLBBBBBBBBBBb-----------------------------------BBB
2/15 BBBBBBBLLLLLBBBBBBBBBBBB-------------------BBBBBBBBB--------BBBBB
2/16 BBBBLLLLLBBBBBBBBBBBB-----------BBBBLLLLLBBBBBBBBBB--------BBBBBB
2/17 BBLLLLBBBBBBBBBBB-------BBBBBBBLLLLLBBBBBBBBBBb--------BBBBBLL
2/18 LLLBBBBBBBBBB------BBBBBBBBBLLLLBBBBBBBBBBb-----------BBBLLLLL
2/19 LBBBBBBBBB-------BBBBBBBBBLLLLBBBBBBBBBBb-------------BLLLLBBBB
2/20 BBBBBBB-------BBBBBBBBBLLLLLBBBBBBBBBBb--------------LLLBBBBBB
2/21 BBB-------BBBBBBBBBLLLLLBBBBBBBBBBb-------------------LBBBBBBB--
2/22 --------BBBBBBBBBLLLLBBBBBBBBBb----------------------BB--------
2/23 -----BBBBBBBBBLLLLLBBBBBBBBBb-------------------------------
2/24 -BBBBBBBBBLLLLBBBBBBBBBb-----------------------------------BBB
2/25 BBBBBBBBLLLLLBBBBBBBBBB-------------------------------------BBBBB
2/26 BBBBBLLLLLBBBBBBBBBb-------------------BBBBBBBBB---------BBBBBBB
2/27 BBBLLLLLBBBBBBBBB----------BBBBLLLLLBBBBBBBB--------BBBBBBBL
2/28 LLLLLBBBBBBBBBB-------BBBBBBBBBLLLLLBBBBBBBBB---------BBBBBLLL
     19 20 21 22 23 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
```

HOUR - LOCAL

Station Mid

HOUR - UTC

```
     0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
2/01 ---------BBBBBBBBBBBBLLLLLBBBBBBBBBBBBBBb-------------------------
2/02 ------BBBBBBBBBBBBLLLLLBBBBBBBBBBBBBb----------------------------
2/03 ---BBBBBBBBBBBLLLLLBBBBBBBBBBBBBb---------------------BBBBBBBBB---------
2/04 -BBBBBBBBBLLLLLBBBBBBBBBBB---------BBBBBLLLLLBBBBBBBBBBB--------B
2/05 BBBBBBBLLLLLBBBBBBBBBBBB-------BBBBBBBLLLLLBBBBBBBBBBBB----------BB
2/06 BBBLLLLLBBBBBBBBBB-------BBBBBBBLLLLLBBBBBBBBBBBb----------BBB
2/07 BLLLLLBBBBBBBBBB------BBBBBBBBBLLLLLBBBBBBBBBBBb----------LLL
2/08 LLLBBBBBBBBB-------BBBBBBBBBLLLLLBBBBBBBBBBBb----------LLB
2/09 BBBBBBBB--------BBBBBBBBBLLLLLBBBBBBBBBBBb----------BBB
2/10 BBB----------BBBBBBBBBLLLLLBBBBBBBBBBBb----------------------
2/11 ----------BBBBBBBBBLLLLLBBBBBBBBBBBb------------------------
2/12 -------BBBBBBBBBLLLLLBBBBBBBBBBBb---------------------------
2/13 ----BBBBBBBBBLLLLLBBBBBBBBBBBb-----------------------------
2/14 -BBBBBBBBBLLLLBBBBBBBBBBBB----------LBBBBBBBBB---------BB
     18 19 20 21 22 23 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
```

HOUR - LOCAL

Station Mid

HOUR - UTC

```
     0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
2/15 BBBBBBBBBLLLLLBBBBBBBBBBBBBB---------BBBBBLLLLLBBBBBBBBBBB--------BBBB
2/16 BBBBLLLLLBBBBBBBBBBBB------BBBBBBBBBLLLLLBBBBBBBBBBBB---------BBBB
2/17 BBLLLLBBBBBBBBBBB------BBBBBBBBBLLLLLBBBBBBBBBBb-----------BBBLL
2/18 LLLBBBBBBBBBB-------BBBBBBBBBLLLLBBBBBBBBBBb-------------LLLLLL
2/19 LBBBBBBBBB-------BBBBBBBBBLLLLBBBBBBBBBBb----------------LLBBBB
2/20 BBBBB---------BBBBBBBBBLLLLLBBBBBBBBBBb--------------------BBBBB
2/21 B----------BBBBBBBBBLLLLBBBBBBBBBBb-------------------------
2/22 --------BBBBBBBBBLLLLBBBBBBBBBb-----------------------------
2/23 -----BBBBBBBBBLLLLLBBBBBBBBBb-------------------------------
2/24 --BBBBBBBBBLLLLBBBBBBBBBb-----------------------------------BB
2/25 BBBBBBBBBLLLLBBBBBBBBBB-------------------LLBBBBBBBB---------BBBB
2/26 BBBBBLLLLLBBBBBBBBBB----------BBBBBLLLLLBBBBBBBBBB--------BBBBB
2/27 BBBLLLLLBBBBBBBBB-------BBBBBBBBBLLLLBBBBBBBBBb---------BBBBBL
2/28 LLLLLBBBBBBBBBB-------BBBBBBBBBLLLLLBBBBBBBBBb----------BBBLLLL
     18 19 20 21 22 23 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
```

HOUR - LOCAL

Station West

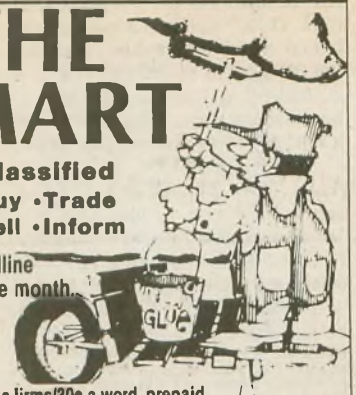
HOUR - UTC

```
     0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
2/01 ----------BBBBBBBBBBBLLLLLBBBBBBBBBBBBBB-----------------------BBBBBB---
2/02 -------BBBBBBBBBBLLLLLBBBBBBBBBBBBBb------------BBBLLLLLBBBBBBBBBBB----
2/03 ------BBBBBBBBLLLLLBBBBBBBBBBBBB-------BBBBBBBBLLLLLBBBBBBBBBBBBb-----
2/04 -----BBBBBLLLLLBBBBBBBBBB------BBBBBBBBLLLLLBBBBBBBBBBb--------
2/05 ----BBBLLLLLBBBBBBBBBB------BBBBBBBBBLLLLLBBBBBBBBBBb----------
2/06 ---BLLLLLBBBBBBBB-------BBBBBBBBBLLLLLBBBBBBBBBBb-------------
2/07 ---LLLBBBBBBBB--------BBBBBBBBBLLLLLBBBBBBBBBBb-----------------
2/08 ---BBBBBBB---------BBBBBBBBBLLLLLBBBBBBBBBBb-------------------
2/09 ----------BBBBBBBBBLLLLLBBBBBBBBBBb-----------------------
2/10 ----------BBBBBBBBBLLLLLBBBBBBBBBBb-------------------------
2/11 ---------BBBBBBBBBLLLLLBBBBBBBBBBb--------------------------
2/12 -------BBBBBBBBBLLLLLBBBBBBBBBBb-----------------------BBBBB------
2/13 -----BBBBBBBBLLLLLBBBBBBBBBBb------------BBBLLLLLBBBBBBBBBB------
2/14 ---BBBBBBBLLLLLBBBBBBBBBB-------BBBBBBBLLLLLBBBBBBBBBB--------
2/15 --BBBBBBLLLLLBBBBBBBBBB------BBBBBBBBBLLLLBBBBBBBBBBb----------
2/16 -BBBLLLLLBBBBBBBBB-------BBBBBBBBBLLLLBBBBBBBBBb------------
2/17 -BLLLLBBBBBBBBB-------BBBBBBBBBLLLLLBBBBBBBBBBb----------L
2/18 LLLLBBBBBBBB-------BBBBBBBBBLLLLLBBBBBBBBBBb----------L
2/19 LBBBBBBB---------BBBBBBBBBLLLLLBBBBBBBBBBb----------
2/20 ----------BBBBBBBBBLLLLLBBBBBBBBBBb-------------------------
2/21 ----------BBBBBBBBBLLLLLBBBBBBBBBBb-------------------------
2/22 --------BBBBBBBBBLLLLLBBBBBBBBBBB---------------------------
2/23 -----BBBBBBBBBLLLLLBBBBBBBBBBb-----------------BBBBBB--------
2/24 ---BBBBBBBBBLLLLLBBBBBBBBBBB-----------BBBLLLLLBBBBBBBBBB--------
2/25 -BBBBBBBBLLLLLBBBBBBBBBB--------BBBBBBBLLLLLBBBBBBBBBB---------B
2/26 BBBBBLLLLLBBBBBBBBBB-------BBBBBBBBLLLLLBBBBBBBBBB----------BB
2/27 BBBLLLLLBBBBBBBBB-------BBBBBBBBBLLLLBBBBBBBBBb----------BBL
2/28 LLLLLBBBBBBBBB-------BBBBBBBBBLLLLLBBBBBBBBBb----------LLL
     16 17 18 19 20 21 22 23 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
```

HOUR - LOCAL

THE MART

Classified
•Buy •Trade
•Sell •Inform



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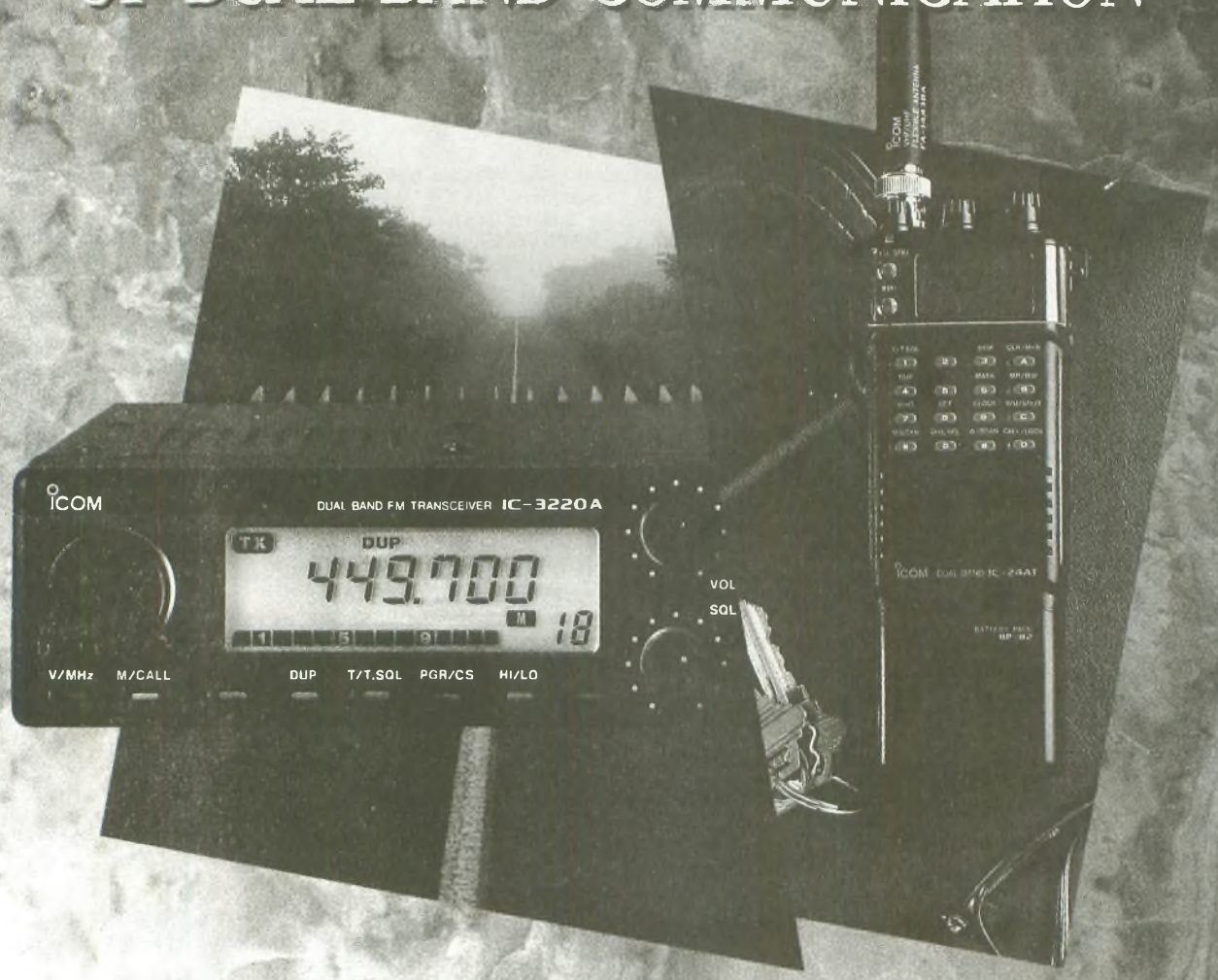

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