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Worldradio

Year 26, Issue 8

February 1997 • $1.50

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Need ideas for your club? Try these!
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Welcome to 2M in Moscow
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Amateur Radio Emergency Communications and the Incident Command System
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This is a 1935 photograph of the well-appointed shack of F.P. Bour, FB7AB/C, of Tananarive, Madagascar. Notice that the display of QSLs even extends to the ceiling. This photograph of Bour and his young son was sent in by Cam Marie, W3EPR, (ex-W6EJR) who worked FB8AB in 1935.

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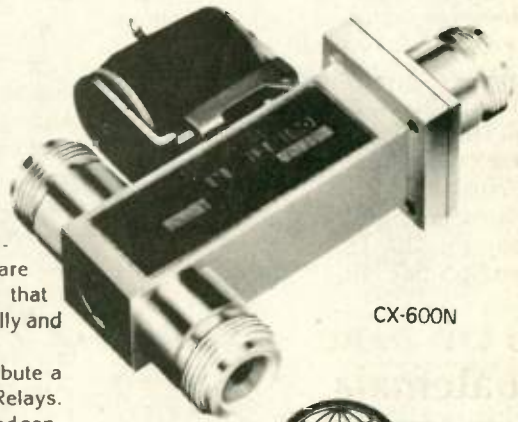
— Ted S. Henry



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NEWSFRONT

Worldradio

Some information has been supplied to *Worldradio* **Newsfront** courtesy of *Newsline*.

NTIA Says "maybe" to new HF bands

The possibility of expanded high frequency Amateur Radio allocations after the turn of the century is included in a 13 December document released by the National Telecommunications and Information Administration. Titled "High Frequency Spectrum Planning Options" by the N.T.I.A., the report lists up to 900 kilohertz of new or upgraded allocations that could be opened to Amateur Radio at a later date. Included is a new ham radio band from 4.945 to 4.995 MHz.

Changes or additions to existing bands include making 3.5 to 3.8 MHz an exclusive worldwide Amateur Radio allocation, rearranging 40 meters to cover 6.9 to 7.2 MHz, expanded worldwide primary allocations at 10.1 to 10.35 and 14.000 to 14.400 MHz. Also included are expanded bands at 18.068 to 18.318, 24.74 to 24.89, and 28 to 30 MHz.

However, some of the expansions proposed are mutually exclusive for amateurs and broadcasters. This means that there is the probability that the two services will have to share on a non-interfering basis on 17, 20 and 30 Meters.

The report may be read in its entirety on the Internet at: http://www.ntia.doc.gov. —*via NTIA*

70 cm band loss in Guatemala

Hams have lost out to commercial users of the 70 centimeter band in Guatemala and the cost could be interference to ham radio satellite operations worldwide, because Guatemala now intends to put commercial operations across the band — commercial signals that will probably include the 70 centimeter satellite subband.

Manfred Kolbe, TG9IKE, reported via the Amsat News Service that on 18 November 1996, the *Diario de Centro America* published the new law regulating all telecommunications in Guatemala. Part of the law removes ham radio access from all frequencies above 146 MHz, except for tiny slivers in the gigahertz region.

The new law was created by a commission from the state-owned telecommunications company, GUATEL which consulted the Radio Club of Guatemala about the project. The commission was quite astonished to learn that ham operators operate some 20 satellites for global communications. They showed greater surprise when Guatemalan hams supplied a list of amateur satellites with operating frequencies and modes. The existence of the Amateur Satellite Service was also brought to the attention of the CEO of GUATEL, and the chairman of the committee of congress in charge of the new Guatemalan telecommunications law. He was even presented IARU and ITU documentation.

Even with all of this documentation however, the decision was made to remove the hams and turn the spectrum over to money-making operations. As a result, the 70 cm band in Guatemala which is comprised of the frequencies between 430 to 440 MHz has now been declared available for commercial use only.

It is not only Guatemalan hams who will face problems because of the change. There is likely be heavy interference to Amateur Satellite Service operations in Region 2 when the transponders on various ham-SATs pick up commercial signals and rebroadcast them on other bands. Even for low orbiting satellites, this will affect an area from southern Canada, all of the USA, Mexico, Central and South America down to Chile and Argentina. Taking into account the future operations of the Phase 3 D ham satellite, the situation may even get a lot worse.

Space walk fix for ham antenna

Russian cosmonauts performed a special space walk to repair a broken amateur radio antenna on the Russian MIR Space Station recently. MIR is back on 2 Meters, and it's a remarkable example of the importance of amateur radio in the Russian space program. They conducted a space walk to repair the ham radio antenna! The Russians consider their amateur station as an essential element of communication aboard the MIR.

(more NEWSFRONT, page 22)

-Worldradio **February 1997**

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Worldradio (USPS 947000) is an international conversation. You're invited to participate.

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 emphasiae the positive aspects of this great activity, and desire your contributions dealing with dramatic, personal and humanitarian uses of Amateur Radio. Articles for consideration may be submitted through the U.S. Postal Service or e-mail to kb6hp@ns.net

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Publisher's Microphone

There are those who hope that Ed McMahon and the Publisher's Sweepstakes film crew will come to their home announcing the windfall.

Others have loftier desires. They want to be ***Worldradio*** Super-Boosters (Lifetime Subscribers). And the latest to join that illustrious group are:

- **Mark Vleck, KA3SNY, Baltimore, MD**
- **Thomas Rac, KC4RUF, Rockledge, FL**
- **Paul Genaw, K8PG, Chatham, MI**
- **Bob Roske, WAØCLR, Gladstone, MO**
- **James Limerick, N5OVF, Mountain Home, AR**
- **Victor Wild, N6NNN, San Diego, CA**

•

It's always a good day when the envelope comes from "The Bureau!"

•

While reading through the bulletin of the Northern California Contest Club just what a good time they are having is obvious. I've often thought that those who join the special interest clubs such as DX clubs, etc., get a lot more out of Amateur Radio than those whose only contact with other amateurs is just on the air. Amateurs who have never been to an ARRL Division Convention or don't belong to their local radio club are truly missing out.

Like many avenues of life, you get out of it what you put into it also applies to this great activity.

•

Just a few minutes ago I ordered a sterling silver call sign lapel pin from One-of-a Kind Custom Jewelers. (145 E. College Way, Durango, CO 81301, 970/247-5844, Visa/MC $24.95) and I hope you do likewise. Wear your call sign pin when you go to your meetings of Rotary, Elk, Moose, American Legion, Optimist, etc., et. al. When someone asks "what's that?" you have an opportunity to tell about Amateur Radio and possibly do some subtle recruiting.

There are many fine people out there who would make great amateurs if they knew that such a thing existed. We have the "stealth" hobby. I still remember reading (and I have mentioned it a few times over these many years) about two men whose office desks adjoined each other, they went on many coffee breaks and lunches together. After seven years of this one mentioned that his hobby was Amateur Radio. The other man, surprised, said he was quite active also.

Let's not keep it a secret! To do our bit in encouraging amateurs to let others know that we exist, we're offering a prize. Starting on 01 January 1997 and ending on 31 December 1997 there will be a contest. For the radio club that is mentioned in their local newspaper the most times regarding some activity (in a one-year period) we'll donate (free) a one-year listing in our "Visit Your Local Radio Club" page and the other goodies that come with it. Also, the club that gets the most mentions in 1997 will receive one copy of each of the books published by ***Worldradio*** Books to give to their members.

Speaking of books, Nikola Tesla fans may be interested to know that publishing company Birch Lane has just come out with *Wizard: The Life and Times of Nikola Tesla; Biography of a Genius.*

•

Thanks to the many who sent Christmas cards to ***Worldradio***. We're truly appreciative that you think of us in such a manner. Among them was one from Willy Yzelman, 9V1WY, Singapore, who said, "For the very best analysis of Amateur Radio, I daresay that your publication is hard to beat."

Another spoke of "the magazine's overall quality and relevance to Amateur Radio."

•

There are some countries in this world that have but very few amateurs. There are those in which the only hams are the nephews of the king. In another it maybe only some high-ranking government official and his few friends.

Did they really take a test? Are we to believe that a question pool and licensing structure was set up for three people? Doubtful. Therefore, according to the standards set up by the ITU for ham licenses these people are nothing more than bootleggers. They are not hams for they have never passed a ham test. We should NOT work them!

One country in particular totally depends on foreigners to run their airline, government agencies and businesses. Yet, no foreigner can have a license there. If their locals (nontested) want our respect they can do what many Japanese do, come to the US, take the test and then put their US call sign on their QSL card.

—Armond, N6WR

NEW

Compact Dual Band Mobile FT-8000R

Now, a dual band that's so advanced - it's simple!

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"High-tech features, too like the enhanced Smart-Search™."

"Advanced performance, and simple to use. I knew Yaesu would be first with this."

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Continuing Yaesu's leading edge engineering philosophy, the FT-8000R Compact Dual Band Mobile introduces industry-first features and no-nonsense operation for today's demanding Amateur. No puzzling key combinations on the FT-8000R; eight clearly marked keys and Yaesu's exclusive Omni-Glow™ display make operation a snap. Want to change bands? Just push the VHF or UHF Volume control!

The FT-8000R is the first mobile to provide super-wide receiver coverage — from 110 to 550 MHz and 750 to 1300 MHz*, receiving public safety, marine, and weather channels. Using Yaesu's exclusive Enhanced Smart Search™, the FT-8000R automatically seeks out and loads active simplex channels into up to 50 ESS memory channels in just seconds — ideal when traveling.

Built-to-last, the FT-8000R brings together the most-requested dual band features and a MIL-STD 810 rating for enduring performance. Dual receive (V+V, U+U or V+U), Crossband Repeat (bidirectional or one-way), up to 50 Watts of VHF power output (35 Watts on UHF) with High/Medium/Low selection on each band, and "plug and play" 1200 or 9600 bps packet are just a few.

Clearly a standout, the FT-8000R boasts 110 memory channels (55 per band including one-touch "Home" channels) that store repeater shift, CTCSS encode tone, and packet baud rate. Other essential features include a backlit microphone (another Yaesu first), Time-Out Timer, and an all-new S-Meter Squelch that opens based on the S-meter reading. And for a programming alternative, the optional ADMS-2C Personal Computer Programming Kit simplifies operation even more.

The FT-8000R dual band mobile is easy to operate — and one of the most affordable radios on the market. Bring its high-tech performance home with you today! Available at your Yaesu dealer now!

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  TX: 144~148 MHz
  430~450 MHz
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  70cm 35/10/5 Watt
- 110 Memory Channels (55 per band, including "Home" channels)
- Enhanced Smart Search™
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- S-Meter Squelch
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- Receiver Muting
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- Omni-Glow™ Display
- 1200/9600 bps Packet Compatible
- Alternating-Band Memory Selection (ABMS)
- DTMF Autodialer (one memory per band)
- Accessories

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Dual Band Mobile
Detachable remote front panel, Alphanumeric Display, Spectra-Analyzer™, Digital Voltage Display, 110 memories in 5 banks, choice of microphones, offers high performance operating flexibility.

Need ideas for your club? Try these!

Is your club busy setting goals for the year? Need some ideas? In his last column written for *Key-Klix* (the club newsletter) as president of the Santa Barbara ARC, Darryl Widman, KF6DI, thanked the members for all their hard work. He then listed the accomplishments, large and small, that the club had achieved in the last two years. The Santa Barbara club has been around for a long time — 75 years to exact. If your club could use a few suggestions, have a look at these and see what might work in your area.

KF6DI's list:

• We assisted in many, many public service events where our operations communicators outdid themselves.

• We formed the Communications Technology Group to keep pushing the edge of the state of the art in Amateur Radio.

• The Santa Barbara Amateur Radio Club celebrated its 75th Anniversary year — a significant achievement for any organization. It was an achievement recognized by proclamations by the City and County of Santa Barbara, and by letters of recognition from State Senator Jack O'Connell, State Assemblyman Brookes Firestone, Santa Barbara County Sheriff and Fire Chief Jim Thomas, Santa Barbara Chief of Police Richard A. Breza, Santa Barbara County Chapter American Red Cross Disaster Chair Arlene Radasky, California Governor Pete Wilson, United States Senator Dianne Feinstein, and President of the United States, Bill Clinton.

• The most exceptional 75th Anniversary issue of *Key-Klix* was published.

• Over thirty people came through our entry level classes and became licensed Amateur Radio operators.

• At the Grand Banquet of the ARRL Hamcon '95 aboard the *Queen Mary*, SBARC was recognized for 75 years of association with the League.

• As a result of a spectacular membership drive, we reached and surpassed our impossible dream — membership of 500!

• During one Club Meeting, SBARC members contributed enough to purchase and license the mobile trailer that houses our portable repeater.

• We began putting on monthly Beginners' Transmitter hunts for newer hams and those always interested — all on foot and instructions included.

• Two exciting and extremely profitable bazaars were held, giving all hams a chance to clean out their junk and let someone else buy it.

• Because many of us need a helping hand now and then, and because there is always someone who knows more about Amateur Radio than we do, the Elmers' Auxiliary was born.

• Each year, the club's participation in Field Day made the newspapers.

• The entire SBARC Field Day VHF/UHF Station was dedicated to the memory of one of our longtime members who loved VHF/UHF and loved that station.

• A new site was found for Field Day where we can lay out the towers so that the stations don't interfere with each other.

• One of our esteemed members was appointed as Secretary of the 220 MHz Spectrum Management Association (SMA) and Director of the southern California Digital Communications Council (SCDCC).

One of our esteemed members finally got the county schools auditorium public address system (including microphone and stand) to operate properly.

• To improve our readiness and ability whenever needed, several Emergency Communicators Courses were given for ARES members and others interested.

• We have improved the efficiency of VE sessions by the automatic production of FCC Form 610s and CSCEs and the introduction of pre registration for the sessions.

• To entice younger hams to get on the air together, we formed the weekly Young People's Net for hams and third-party non-hams ages 18 and under where they can talk about whatever they want and know that the frequency is theirs.

• Project Pathfinder was launched using local law enforcement muscle to curb the malicious interference during emergency operations on our repeaters.

• Two trips were conducted — one to Catalina Island to see the Catalina Amateur Repeater Association's repeater at the Airport in the Sky, and the other to the AT&T Triunfo Pass International Satellite Earth Station located in the mountains behind Malibu that provides global telecommunication services.

• Our ARRL Southwestern Division Director again recognized SBARC as the Outstanding Club in the Division, and pointed out that SBARC is unique in all the country.

• Two of our most successful and well-attended Hamfests in recent memory were held, and attracted hams and their families from great distances to enjoy the good food and good times, and prizes for nearly everyone.

• One of our esteemed members finally got the county schools auditorium public address system (including microphone and stand) to operate properly.

• SBARC financed the construction of the new serving counter (the old one was washed out to sea by a flood) in the Picnic Grove area of the Santa Barbara Elks Lodge. It contains a plaque commemorating SBARC's 75 years of service and is a reminder of our appreciation of the Lodge.

• The Hamcon '95 Seniors Class (over 50) Transmitter Hunt was won by two SBARC members.

• To help keep things lively and to help get members to our monthly club meetings a bit earlier, we instituted a "Free to Good Home" table where "you never know what you're gonna find."

• After 18 years of heading up the

cook crew for Hamfest, our talented chef retired and a new, equally-talented individual took his place.

• Our SBARC-backed ARES was recognized by the Department of the Air Force for providing a communications relay to Vandenberg Air Force Base for a backup helicopter that was needed to complete a rescue at Red Rock.

• Three SBARC members put on an Amateur Radio presentation for the science class at Kellogg School and had the students participating.

• One of our esteemed members has taken upon himself the responsibility of becoming the Collector and the Keeper of the Crystal Collection.

•Two of our own set sail, fought the perilous seas not knowing if they would ever return, and activated grid square CM93 (a rare one) in the 1995 *QST* VHF/UHF contest.

•To provide our overworked and underpaid Editor of our world-renowned *Key Klix a bit of respite, we now have an Assistant Editor.*

• OSCAR 13 just bit the dust after 8 glorious years of orbiting the Earth, and to help the AMSAT Phase 3D satellite come closer to reality, our generous members made a nice cash donation towards the project.

•A YL (Young Ladies) Net was started so the gals could discuss things of interest to them, and to encourage new lady hams to begin operating.

• Our beloved newsletter Key-Klix was awarded a "Superior" rating in the 1995 Amateur Radio News Service Publications Contest, scoring 97 out of a possible 100. Congratulations!

• We blitzed Washington with letters of protest when we heard about the "little LEOs" (Low Earth Orbiting satellites) wanting to have our 144 and 440 MHz bands.

• Three of our club members gave a demonstration of ham radio to the 5th grade class at the Waldorf School and put a sparkle in many youngsters' eyes.

• About 150 local Los Padres Council Cub Scouts and Webelos were treated to a "show and tell" of the Club Communications Van.

• After years in the planning, the new SBARC 446.4 MHz repeater was put on the air for all to use — an open UHF machine. And to help it hear better, a low noise GaAsFET preamplifier was added resulting in a 6-dB improvement.

• ***Worldradio*** recognized our ad, in *Key-Klix*, for entry-level Amateur Radio classes as the finest recruiting ad they had ever seen.

• SBARC's new event banner now waves proudly in the breeze at all club operations.

• Seeing the need and responding to it, some of our "Doers" have formed the SBARC Electronics Workshop for members to learn their way around building ham radio items — how to handle tools, how to solder, how to read schematics, and a whole lot more.

• The first of, hopefully, many Event Communications Classes was held, covering radio techniques and protocol.

• The SBA packet node at La Vigia Hill is now in communication with the Agoura Packet Association system at Saddle Peak.

•We recently formed the Welcoming Committee to make new members and guests feel at home at our club meetings.

• SBARC purchased $500 worth of ARRL books and donated them to local libraries in keeping with our educational mission.

• The addition of the transmitted 131.8 Hz PL on the 146.79 MHz repeater now permits you to eliminate co-channel interference by using CTCSS on your radio.

• A tri-fold brochure was produced to show the activities and accomplishments of SBARC. The brochure is available at all club meetings, and can be handed out to prospective members as well as the general public.

• Members of SBARC assisted with the Fox Hunts (T-Hunts) for the Scouts at the Jamboree on the Air (JOTA) at Lake Casitas, put on by the Ventura County Amateur Radio clubs, thus getting many youngsters interested in the hobby.

• A nice donation was made by our Club members to *Newsline* — the on-the-air Amateur Radio news service — to help keep them on the air.

• We gave a healthy donation to the ARRL for its Fund for the Defense of Radio Frequencies.

• The VE team conducted 14 sessions, providing everyone a chance to take an exam and upgrade.

• We collected over 200 pounds of groceries for distribution to the needy by the Food Bank of Santa Barbara County. —*SBARC Key-Klicks*

E-mail:
w4zc@cais.cais.com

Unity is the best policy

In a guest editorial in the December, 1996, issue of *QST* Bob Jones, VE3CTM, Director of ITU's Radiocommunication Bureau said in part: " . . . as many national Amateur Radio organizations have discovered, it is essential for you to speak with one voice even when there are genuine differences of view within the Amateur community. Unless you are unified, you will be victims of the 'divide and conquer' approach."

IARU Region 1 supports CW

In the same issue of *QST* there is a report (page 85) on the highlights of the recent Region 1 IARU conference in Tel Aviv. Of great interest is the report that "Based on a review conducted by another working group, the Conference recommended no changes to Article S25 of the international Radio Regulations."

Status of Vanity call signs

The FCC has granted approximately 700 new vanity call signs after turning down several petitions for reconsideration that had held up the program for a few weeks. Several hams whose Gate 2 applications arrived too early and were dismissed had petitioned the FCC to reinstate their applications. The petitions were dismissed, according to an FCC spokesman. The latest call signs issued are from applications received by the FCC between September 24 and 27. An estimated 20 per cent ended up in the WIPS, or "works in process," stack for special handling — in some cases because the FCC was unable to grant any of the applicant's call sign choices, in others because there was a problem with the application.

Applicants can check for new call signs using the FCC Transaction Engine on the ARRL Web page, http://www.arrl.org/fcc/fccld.html.

The FCC now gives equal weight to all vanity applications from any of the vanity gates opened to date. This means that a Gate 1 applicant trying to regain a former call sign who applied after the September 23 opening day for Gate 2 could miss out if that call sign already has been issued to a Gate 2 applicant. The FCC considers all vanity applications from all open gates in order of day received.

Meanwhile, the FCC also has worked its way through the estimated 550 first-day Gate 2 applications that ended up in WIPS. Following the initial wave of Gate 2 vanity call signs on November 4 (released to the public the following day) and before the most recent wave, the FCC granted another 176 call signs in all vanity categories, most, if not all, among the estimated 550 Gate 2, day-one applications that ended up in the WIPS stack at the FCC.

Applications for vanity call signs continue to show up at the FCC. From October 21 through November 7, the FCC had received an additional 459 vanity program applications. The FCC reports that 210 were hard-copy applications, while the other 249 were filed electronically. A spokesman in Gettysburg advised hams filing new or modified applications to be extremely careful in completing their paperwork. "We are seeing a lot of errors," he said. Among the common ones are a name that does not agree with the FCC's database, call sign incorrect, or a license that expires

Amateur Radio Call Signs

Amateur Radio operators often ask the FCC what call signs have been assigned lately under the sequential call sign system. This list shows the last call sign in each group to be assigned for each district, as of the second of December, 1996. For more information about the call assignment in the Amateur Radio Service, see Section 97.17(f) of the FCC Rules, or contact the FCC's Consumer Assistance Branch, 1270 Fairfield Road, Gettysburg, PA 17325-7245, toll free 800/322-1117.

Radio District	Group A Am Extra	Group B Advanced	Group C Tech./Gen.	Group D Novice
Ø	ABØDH	KIØFP		KBØZBW
1	AA1QZ	KE1GK	N1YFL	KB1CAN
2	AB2CQ	KG2JG		KC2AIU
3	AA3PD	KE3YE	N3YKC	KB3BRF
4	AE4ZE	KT4YT		KF4NQG
5	AC5KN	KM5FH		KC5YCW
6	AC6YQ	KQ6LA		KF6HQC
7	AB7TJ	KK7DJ		KC7TOB
8	AA8YS	KG8ZW		KC8FLH
9	AA9TO	KG9IQ		KB9PAW
N. Mariana Is.	NHØA	AHØAW	KHØFR	WHØABF
Guam	(*)	AH2DC	KH2QY	WH2ANR
Hawaii	AH7J	AH6OW	KH7BY	WH6DCW
Amer. Samoa	AH8O	AH8AH	KH8DC	WH8ABF
Alaska	(**)	AL7QT	KLØBX	WL7CTY
Virgin Is.	WP2X	KP2CJ	NP2JO	WP2AIH
Puerto Rico	KP3V	KP3AN	NP3HY	WP4NMR

*All of the Group A call signs for Guam have been assigned. Any request for a Group A call sign will now be assigned a Group B format. **2x1 call signs are available for this group.—FCC

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within a year and the renewal box is not checked. "Please double check before you submit," he advised. "It creates a lot of extra work for us and delays the issuance of the license if you don't."

The FCC has not announced when it plans to open Gates 3 and 4 of the vanity program. —tnx *ARRL Bulletin*

Synthetic Aperture RADAR Systems

The Jet Propulsion Laboratory and other space agencies are eyeing the 70 cm Amateur Radio band for a satellite-carried Synthetic Aperture Radar system. In addition to the US, The Netherlands and Japan want to use the 430-440 MHz band for this type of radar to scan tropical rain forests and desert sand.

The proposed NASA and JPL radar will reportedly result in a very high-power flux density at the Earth's surface and could interfere with amateur operation, although SAR transmissions would be brief, not continuous. In other words, these radar systems will interfere with terrestrial systems whenever they are in view and the equipment is turned on.

The ARRL says that it is working to ensure that amateur interests are taken into account as the process moves forward.

Advanced Class VEs

The ARRL has asked the FCC to change its rules to permit Advanced class volunteer examiners to administer the General class license examination.

Under current rules, Advanced class VEs can administer only Novice, Technician and Technician Plus examinations. The League's filing says that allowing Advanced class VEs to administer General class examination elements will help to create additional opportunities for upgrading. It would also take some of the mounting pressure off Extra Class VEs. The League estimates more than 15,500 additional elements could be administered each year if Advanced class VEs could administer exams up to the General class level.

Electronic license processing

A new license renewal benefit is now in place for ARRL members only. The ARRL VEC says that it will process FCC Form 610 applications for a renewal, address change, name change or call sign change for electronic submission to the FCC.

There is no charge for this service but an original, signed Form 610 must be mailed or otherwise delivered to the ARRL VEC.

Faxed-in 610s are not acceptable. Any questions or transfers should be directed to the ARRL VEC at area code 860/594-0300.

Amateur service retains access to 13-cm band

The FCC has confirmed Amateur access to the 13 cm band, On October 18th the FCC released a fourth Report and Order in ET Docket No. 94-32 (Allocation of Spectrum below 5 GHz Transferred from Federal Government Use) in which the Amateur Service continues its co-secondary status in the 2300-2310 MHz segment (at least for now). New language was also added to Part 97b elevating the Amateur Service 2390-2400 and 2402-2417 MHz segments to primary status.

The FCC also determined that the existing technical rules governing use of these bands are adequate and that no additional rules are needed. The Commission then adopted their earlier tentative conclusion that the Amateur Service, unlicensed Data Personal Communications (Data-PCS) devices, and other unlicensed Part 15 devices can share their respective bands under existing rules without additional requirements. WR

McNamara leaves the FCC

Robert McNamara, N1KHF, who has served as Chief of the FCC's Private Wireless Division left the Commission on Friday, 13 December, to enter the private sector. Word out of Washington is that McNamara has accepted a position with Nextel Communications. Nextel is a major supplier of telecommunications services.

Since the departure of Ralph Haller, N4RH, from the FCC last June, Bob McNamara has been the chief point of contact between the commission and the ham radio community. He even attended last falls' ARRL National Convention in Peoria Illinois.

Welcome to 2M in Moscow

Alexander Zaitzev, RW3DZ

Greetings from Troitsk, Russia. Troitsk is a small town near Moscow (population 32,000), about twelve and a half miles to the south, via a beltway. It was created during the past 25 years as an Academic City, where the institutes of learning here deal primarily with basic research in physics. Anybody who has Internet access may see details at: http// www.troitsk.ru.

Two-meter repeaters have become very popular in Russia. It seems to me that the network of repeaters is growing at about the same rate as in the US during the 1970s. In the Moscow metropolitan area, we now have at least six repeaters. The story about the creation of "R4" in Troitsk, is typical.

First, some historical background. It was 1986 when the first repeater in Moscow came on the air. That was the date when special permission was granted in favor of Arctic expeditions and was obtained by Leo Labutin, UA3CR. Soviet authorities disliked anything that represented a change of any kind, and for such a move to succeed was a great achievement. It hinted of new possibilities for hams in Russia. The same group of amateurs also obtained the first license to operate packet. During this period, until 1991, this operation was strictly "experimental" in accordance with the government's rules.

After the fall of the USSR, Russian amateurs were "ready to go" with such new technologies as FM repeaters, packet radio, SSTV and satellites. A group of very active Muscovites created an initiative to get formal approval from Russia's equivalent of the FCC to operate in the new modes for all Russian territories.

The newly-formed Souyz Radiolubitelei Rossii (Russian Amateur Union) successfully managed these items, and now we are forging ahead. In 1992, the group of hams from Troitsk applied for permission to install an FM repeater. We were all organized around the club station RK3DXB, based at School # 1, in Troitsk. This station was established in 1965, and many pupils have been trained there.

As the group's leader, it was my task to create support in favor of the repeater. From my previous experience as an operator of KC4AAA in 1977, I had learned the details of repeater building. My teacher was Jerry Gastil, K6DYD, who was a Chief Radioman at the South Pole during "winter over." From those lessons I had a base version of an FM repeater which I built from an old mobile rig. It was a rugged, tube-type construction, versatile and in good shape, which I was able to put together from the junk in the radio room.

The main problem was the antenna system, and how to find a good place to install the repeater. As Troitsk is a city with multi-storied apartment houses (see it on its Web page!), we decided to use one of them as a natural "tower."

The first attempt was made in the summer of 1994, but was not very successful. We do not have a duplexer, and the receive and transmit antennas on the small roof were not well spaced. Another "accident" further delayed our progress — my old FM repeater from the South Pole was "arrested" by the police when they staged a raid against some illegal activity on the air.

One of my young students was involved in such "entertainment" and was arrested by the police, and all the electronic gear which was in his flat was confiscated. The FM repeater had been in his flat for tests and adjustments, so alas, it was gone!

Well, given the situation, we decided to build everything all over again. It became obvious that it would be best for us to split the repeater site, with the receiver at one site, and the transmitter at another. We found a way to install them on the apartment building "towers" about 440 meters apart. They are linked on UHF, with less than 50 milliwatts power, and it works very well!

On a simple quarter-wave dipole for transmit, and an ARX-2B for receive, we get the best sensitivity we can. Many users who operate through our repeater are located 19 to 25 miles away, and use only 1 to 2 watts, on handhelds! Some of the youngsters are students at Moscow University about 17 miles away, and they operate from the University back to Troitsk. It is really fun, between lectures, for them to talk to their friends! The frequency, 145.70, is in use often.

I keep my Kenwood TS-2600 handheld on most of the time, if it does not interfere with my business — homework, hours in my office at the institute, computing and lessons at the club RK3DXB, etc. On 2 November 1996, I was attending a birthday party and heard a call from U4MIR, Alexander Volkov, from Star City. I answered him, and we had a good chat about matters of mutual interest, such as MIR operations, and cosmonauts whom we know well. The distance from Star City to Troitsk is 60 km (about 37 miles) and U4MIR uses a simple antenna and base station, too.

In summary, if you are an Amateur Radio operator and planning a visit to the Moscow area, please bring your 2-meter rig. It will give you a chance to listen to our amateur community. The most useful FM repeaters are, in downtown, 145.625 (R1), and 145.725 (R5). The most friendly (we think!) is R4 in Troitsk, which can be accessed from the southern part of Moscow, and can be heard south of the city. You are cordially welcome.

If you have read this far, you may be asking yourself the obvious question: May foreign operators *transmit* in Russia without some special permission? Sorry, the answer is no. That kind of reciprocal agreement is still in the future. Now, you must apply to the Russian "FCC." This procedure requires application 45 days in advance, though it is relatively inexpensive and straightforward.

Recently we have heard some well known call signs in Moscow; K4HHG, WØYR, AB6Q, YT1AD, and others. Why not to join them? You will be welcomed on R4! **WR**

Amateur Radio Emergency Communications and the Incident Command System

Jerry Boyd, K6BZ

For decades Amateur Radio operators have been providing emergency and disaster communications in support of public safety agencies. Typically, we have worked for a "client" such as a police or fire department. We have been assigned a specific mission and generally have been given someone to report to in the overall chain of command for the incident at hand. In major incidents such as a hurricane or earthquake with regional impact we may have served multiple clients each with its own command structure. As communicators, we have experienced few difficulties in working within the "traditional" command structure used historically in disaster response. Our service has proven valuable regardless of the complexity of the event or the number of clients involved.

Public safety agencies (the people for whom we work in major incidents) have found, however, that the traditional approach to preparing for and responding to major events is less than optimal. The usual scenario, involving multiple police, fire, and emergency medical response agencies working individually, each with its own command structure, has some downsides. One is confusion due to a lack of clarity as to who is "in charge." Another is a duplication of effort. A third is that some things simply do not get done, or at least not in a timely fashion, because there is no central command center and unified command structure where all activities of all participating agencies are monitored, documented, and directed. This is all about to change!

Change in approach

As our clients change their approach to managing major events we as amateurs must change as well if we are to continue to be of service.

In the early 1970s, the fire service in the state of California developed a system for managing fires or other emergencies involving a fire department response. That system, known as the Incident Command System (ICS), lends itself readily and effectively to small incidents requiring the response of only one piece of fire apparatus and several fire fighters. It also readily adapts to major disasters to which thousands of personnel, hundreds of pieces of emergency equipment, and a variety of agencies from several states may be dispatched.

ICS remained, for nearly twenty years following its development, almost exclusively a tool used by fire fighting professionals. There were a few enlightened non-fire public safety organizations which did adopt the ICS approach over the years. So fire-oriented was ICS that the term "Firescope" was given to it. The Oakland-Berkeley Hills urban firestorm of 1991, which occurred in the San Francisco area, was the catalyst for greatly expanding the use of ICS not only by ALL fire agencies in the state of California, but police, schools, and hospitals as well. That disaster, to which Amateur Radio operators responded in great numbers and over a prolonged period of time, destroyed over four thousand homes and other structures. It involved hundreds of public safety organizations from all levels of government. When the fire was out, the public, the media, and many elected officials asked how such a catastrophe could have occurred immediately adjacent to one of America's largest urban centers. Politicians in particular began to point fingers of blame. After much discussion and many public hearings on the subject, they determined that the lack of a fully coordinated response allowed a controllable fire to spread out of control. They studied it, debated it, and ultimately decided that if ALL of the involved agencies had operated under a unified command — a critical component of ICS — the fire would have been much less devastating.

Coordinated response

Based upon the review of that firestorm, the California State Legislature enacted a bill which made the use of ICS mandatory in the state by the end of 1996. This means that any agency or organization which is otherwise required by law to prepare an emergency plan MUST use the ICS as the basis of such plans. It MUST train its personnel in use of ICS and, most important, MUST use it in responses to emergencies or disasters. Cities and counties, school districts, hospitals and others are bound by the ICS requirement.

The consequences of failing to comply with the ICS requirement are substantial. Non-compliance can result in an agency's ineligibility for funding of its emergency preparedness programs. It can result in denial of post-disaster reimbursement for disaster-related expenses. Lack of compliance can also be used against the agency if a civil claim or lawsuit is filed alleging a failure of the agency to properly respond to a specific event.

The significance of ICS for Amateur Radio, keeping its historical development in mind, is this. Even though California's ICS mandate is just now coming on-line, the concept has already been adopted by many other states. The world renowned California Specialized Training Institute (CSTI) in San Luis Obispo, California which trains emergency management professionals from across the nation and around the world (and presents many courses certified by the Federal Emergency Management Agency-FEMA) has focused on ICS as the basis for all of its courses. It is predicted by many experts in the field that within a very few years the ICS will be the only approach used for disaster manage-

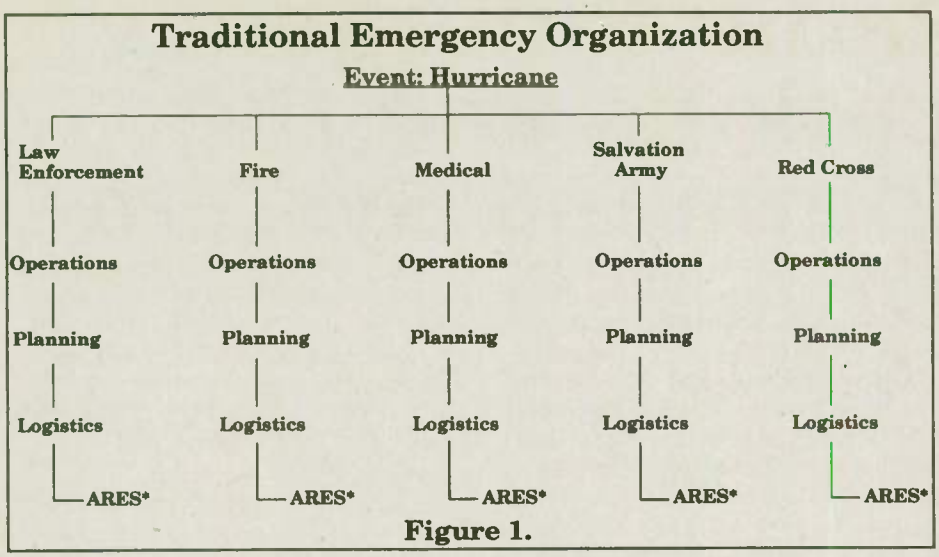

Figure 1.

ment in the United States. This will have a profound effect on how we as amateurs involved in ARES, RACES, VIP, SKYWARN, SAR, etc., will need to be trained. Of greater importance, it will impact how we will function when called upon to assist our clients.

What's different?

Perhaps the best way to understand how ICS differs from the more traditional approach which we are familiar with is by reference to Figures 1 and 2. Figure 1 depicts, in very simplified form, how a "traditional" response to a hurricane might look organizationally and where Amateur Radio has "fit" into the picture. The diagram is simplified. While it depicts multiple agencies using Amateur Radio assistance it clearly does not show all that might be involved in a response effort.

As noted in Figure 1, the event involves many different entities. Each has its own role, its own organizational structure, and individual chain of command. Each uses its own cadre of Amateur Radio communicators (ARES in the example) to assist them as needed.

Figure 2 depicts, also in simplified form, how the same event (a hurricane) would be managed under the Incident Command System. Rather than multiple response organization structures and chains of command, there is but one. All of the involved agencies are represented in each of the important components of the system and they all work together rather than individually. All report to one incident commander or joint command. Which agency functions as incident command depends on both the type and scope of the occurrence.

The incident commander in a scenario with a barricaded suspect with hostages would be a law enforcement person. Assisting organizations, such as the fire department, emergency medical personnel, and mental health professionals would report to the incident commander through the structure. If the incident were a large warehouse fire, the incident commander would be a ranking member of the fire department and police personnel assisting with traffic control (for example) would report through the structure to the fire department. In a major regional event such as earthquake or hurricane incident command might be "joint" with the Incident Command position staffed by top level representatives of more than one public safety profession.

Under the ICS the Incident Commander is "in charge" of ALL responders. This eliminates lack of understanding. All agencies called upon to assist participate in the vari-

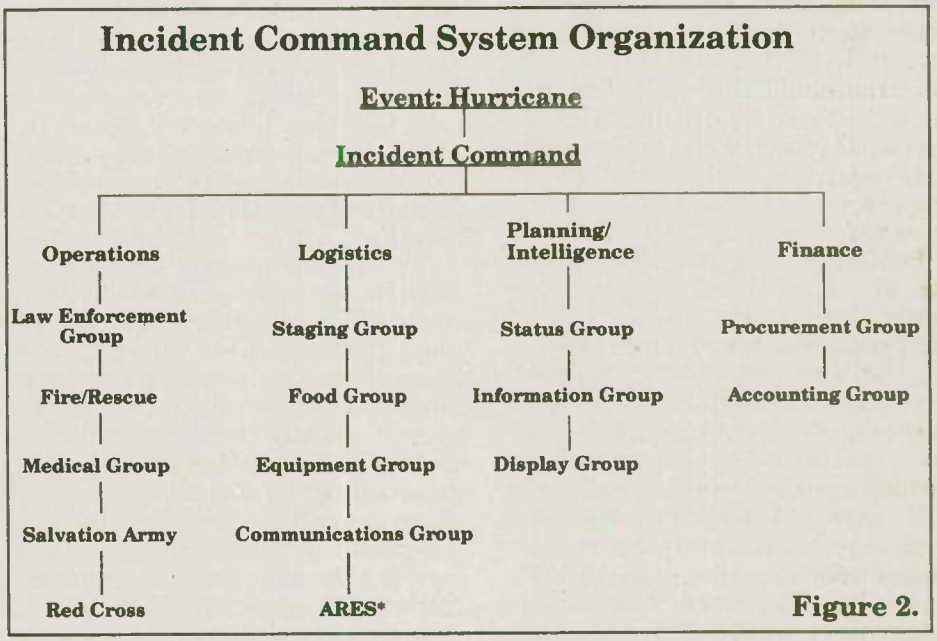

Figure 2.

ous components of the system. As an example, Logistics might have representatives of police, fire, emergency medical, Red Cross, FEMA, etc. The same, or similar, representation might be found in the Planning Section. One benefit of this approach is elimination of duplicated efforts. This results from all of the participating agencies having the "big picture" of what is occurring. Each agency knows what its role is as well as what other agencies are doing. Guesswork is eliminated. ICS also offsets the problem of some functions not being performed at all, since representatives from all responding entities talking face-to-face are more likely to uncover gaps that might otherwise escape unnoticed.

Of importance to us as amateurs is the fact that under ICS our assignment will not be to each of our traditional clients as individual entities. Rather, we will be assigned to a specific component of the ICS structure (the most used ICS "model" puts communications within the Logistics Section). That is where we will report, and it is from that component of the system that we are assigned to various "user groups" that need and will benefit from our efforts.

It is likely that we will continue to be affiliated with specific clients as we have been in the past. In the case of special events we MAY continue to work with them individually. That MAY NOT be the case however since ICS lends itself well to managing not just disasters but special events and even "routine" day-to-day operations. It is critical though that we remain flexible and ready to function as part of the ICS structure when required.

In order to prepare ourselves to perform as competent ICS functionaries we need training. While our roles and the missions we are assigned under ICS may not be substantially different than in the past, how we respond and how we work effectively within the command structure will be different. At present, a "train the trainer" approach is being used to prepare government agencies for ICS implementation. If your county or city is adopting ICS, in all probability someone from that jurisdiction is being trained and certified as an ICS instructor. He or she will then return to the jurisdiction and provide training throughout the organization.

In terms of our training as amateurs in our ICS responsibilities, we will almost certainly need to depend upon our clients providing it to us. The recommended approach, if your client has not yet completed the conversion to this new system, is to gain approval to be trained simultaneously with your client's employees. That is far preferable to playing "catch up." But however you must attain it, the critical task is to acquire the necessary training from some source and in a timely fashion. ICS is the trend of the future. If we wish to maintain our important role as emergency communicators we too must prepare for that future.

The author, a Life Member of the ARRL, is a retired Chief of Police / Disaster Preparedness Director. He is a former ARRL Section Emergency Coordinator, a current Assistant Director of the Pacific Division, and is involved in Public Safety Communications and Disaster consulting. He and his wife Jay, KN6BP, are authors of the book When The Big One Hits...A Survival Guide For Amateur Radio Operators *published by WORLDRADIO Books.* **WR**

Do as I say...

Gary Cox, N4LBW

On 13 October 1996, the whole family was excited about taking a drive on the Blue Ridge Parkway, and possibly taking a hike on one of the wilderness trails. It was Sunday and as I usually work on Sundays, this was really a special day. It was sunny and unusually warm for October, and the fall foliage was at its peak.

We started the day by going to church, then ate lunch at a local restaurant, and started out on our big adventure. Everyone was having a great time, and enjoying the breathtaking scenery. All of us, except for my wife Donna, were rested and ready for a memorable adventure. Donna had worked the previous night and had not yet been to bed. I had suggested that we should not go, and that we should let her get some much needed rest, but she would not hear of causing us to stay home on such a glorious fall day.

Around 2:30 p.m. we arrived at the Castlerock Gorge Wilderness Trail. We entered the trail at the Rocky Knob Overlook, turned right and began our trek down the mountain. We were enjoying the clean mountain air and the beautiful fall colors. We watched as our children played and ran on ahead of us. I took pictures with my video camera, and my wife took some still photographs. We walked across a high meadow and then descended into the gorge. The trail was tricky, and one could have easily slipped off of the mountain into the gorge below.

We were slower than the children, and I was carrying a large VHS camcorder and my two-meter handheld. Soon we couldn't hear the kids anymore. We continued to negotiate the steep trail, and we began to lose traction on the wet, slippery rocks.

The temperature started to drop, and I knew we needed to get out of there before sundown. I was weighed down with equipment, and Donna was slowed now by blisters on her feet. She was just exhausted, and we were terribly worried about the children, because they were now well out of earshot.

We came upon a sign that informed us that we had walked 5.3 miles and another sign that indicated that we had 2.3 miles to go before reaching the Parkway. It was getting dark, and I knew we would never make it out in the darkness. Donna was walking slower and slower. I then saw a log bridge with a hand rail. Thinking this was the trail, we crossed the river.

Just as we reached the other side, it became impossible to see the trail. I saw a sign on a tree but could not read it. We used a cigarette lighter to read the sign: "No campers beyond this point."

It seemed as if the trail had ended. We tried to turn back, but we could not find the bridge. We were totally

lost in the woods. We could hear the roar of the river, but we kept stepping into mud. We tried to find our way with the cigarette lighter, but it would not stay lit. We tried to light sticks to use as a torch, but everything was too wet to burn.

Donna said she was exhausted and could not go any farther. I tried to reach someone on the handheld, but since we were so deep in the gorge, no one answered. It was difficult to see to tune the radio. I tried 146.52 MHz, and several repeaters. The only repeater I could hit was 147.285 MHz.

After repeated calls, I finally reached David Gleason, AE4YK, in Martinsville, Virginia. He said my signal was very weak, but he made out enough of my signal to call law enforcement officials, who began dispatching personnel to locate us. I reached David around 8:45 p.m. About that time, Mike Smith, KD4QWD, came on the frequency and said that he could copy me direct, better than through the repeater. Mike was about 30 miles from our location. He was using a beam antenna, but even at that we were very fortunate that he could hear my weak signal from that distance. I was using a handheld with a rubber duck antenna and a stock NiCd battery.

While we waited for our rescuers, Mike continued to talk to us. Donna was getting very cold, and I feared that she was suffering from hypothermia. We were both wbeside ourselves awaiting word about the children.

It was very dark. I could just barely make out a few stars through a small opening in the tree branches overhead. About that time, Mike came on the radio and said that he was listening to the police scanner. He said he heard that the Patrick County Sheriff's Department had our son, and they had located the van and that they were searching for us. A few minutes later, Mike came on the radio and said that all of the children were safe at a house, where they had come out of the woods and knocked on the door. He said that the family at the house was giving them hot drinks and taking care of them. What an enormous relief!

Mike came back on the radio and wanted a precise description of where we were. I explained that we were off of the main trail across the river, near a log bridge. He said they had rescue people looking for us and that they should be there soon. He said that when I saw their lights, I should start yelling. I was afraid they might drive on by and not see us, since we were across the river.

We waited for what seemed like an eternity.

Finally, around 10 p.m., I saw lights and heard the engine of a heavy vehicle. I waited until it got close, and I began yelling. The vehicle stopped, and the rescuers used a bright spotlight to locate us. It was a Patrick County, Virginia Rescue Squad vehicle. Rescue workers lit up the woods with their lights, and I saw the log bridge that had been so elusive.

One of the rescue squad members yelled "Are you Mr. Cox?" I said, "Yes." He said, "You are the man we are looking for!" He came across the bridge and helped us to the vehicle, which appeared to be a jeep-like ambulance. We got in the ambulance, and they wrapped Donna in a heavy oversized coat. She was trembling all over. The warmth from the heater really felt good.

The man who had helped us to the vehicle was Mr. Doug Edwards. It was his home that our kids had found. Mr. Edwards said, "You almost made it out. Just a little more, and you would have reached the Parkway." The ambulance took us to a clearing where several vehicles were parked. There was a fire truck, a sheriff's car and several rescue squad vehicles. All of the red and blue flashing lights fantastically illuminated the night. There must have been 50 people in the woods. I felt so embarrassed at having caused all of this uproar.

Mr. Edwards told us that our kids were at his house. He explained that there was an old graveyard in the woods near his home. When the kids saw the graveyard, they panicked and ran all the way to his house and knocked on the door. In his mountain drawl, he said, "Those kids were scared to death."

Deputy Gary Brown drove me to our van, which was over eight miles back up the Parkway, while Mr. Edwards took Donna to his house to be reunited with the children.

Arriving back at the Edwards' house, I was able to meet and thank Mrs. Brenda Edwards, who had taken care of the kids during this ordeal.

I could not believe how caring and helpful everyone was; the rescue squad members, the Sheriff's Deputy Gary Brown, and the Edwards family. We will always be indebted to these fine people and to the public servants of Patrick County, Virginia. Without their preparedness, expertise and willingness to serve at a moment's notice, my wife and I may have been on that mountain until the spring thaw!

Let me urge all who read this to avoid the mistakes we made. Plan ahead; let others know where you expect to be, the route that you have planned, and when to expect your return. Always dress appropriately for the climate and season, stay together, and carry emergency rations and supplies.

I want to thank hams David Gleason, AE4YK, and Mike Smith, KD4QWD, for notifying the authorities that we needed help, and for talking to us until help arrived. Ham radio just may have saved our lives. WR

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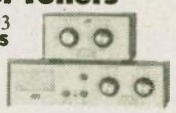

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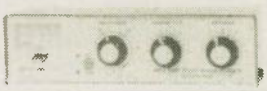

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MFJ-418 gives you a large LCD display that reads out letters, numbers and punctuation in *plain English*. See code as it is being sent!

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Toss it in your briefcase, travel bag or stash in your car's glove compartment and you'll always have it ready for instant practice.

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Tapes play the same old boring stuff over and over again. Unlike tapes, you'll never memorize the MFJ-418 random code sessions.

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Intermod causing squeaks, squawks, unidentified voices and other noises all across the 2 Meter band? Can't use your radio?

MFJ *IntermodFighter*™ eliminates intermod by reducing interference up to 50 dB with three high-Q bandpass filters. Plugs between radio and antenna.

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The "Worked All Telephones" Award

John Sehring, WB2EQG

Wow, I certainly qualify for that one, even though I'm not a DX chaser! This being the case, I found an article by Harley Licht, WA6ISX, "The WATTS Award" in the November, 1995 issue of *QST* on eliminating RF interference to telephones to be interesting. It also listed telephones, by manufacturer and model, that were found to be best and worst when it comes to susceptibility to RF energy as from an Amateur Radio station.

The author described some unsuccessful tries at cleaning up his own Telephone Interference (TFI). He reported a final cure involving homebrew filters made with ferrite cores.

I ordered the referenced ferrite cores in that article and discovered that the company (PSC Electronics) has a minimum order charge. With shipping, seven of the specified cores came to about $28. A bit much I thought, but hey, I could build a lot of filters, right?

Unfortunately, when used as directed by the article, it did nothing at all to reduce telephone interference. My particular antenna setup may be a part of the reason for this.

On this quarter-acre lot, I put up a full-wave horizontal loop for 75 meters. It is 275 feet, all around. The antenna is fed with home-brew, open-wire line using a Johnson Matchbox™ for matching and balun purposes. Power levels are 125 watts peak.

We live in a high desert area where trees don't grow much above 30 feet in height. As we do not own the home we live in, a tower is out of the question. So I need to use my single-story house to support one side of the antenna, which puts it right into the middle of the antenna.

The *phone is located only about 35 feet* below one corner of the loop!

In the article, Licht's directions show that seven turns of the phone's input line around the ferrite core were optimum; but that didn't work at all for me.

I thought that more turns would help, so I wound ever-increasing amounts of fine, 28-gauge enameled wire (from a junked TV set horizontal deflection yoke) into two electrically separate (bifilar) windings on one of the cores. I used up to 150 feet of this wire with no luck.

I tried these home-brew chokes with the two windings connected both in and anti-phase, with no improvement. Two of these complete chokes in series made no difference either.

I also tried various values of disk capacitors in a variety of connections, e.g. across the input and/or output of the filter, cross connected (output of one choke to input of the other), and across the choke windings themselves, to no avail.

I then tried an AT&T model Z100B1 filter purchased at a close-out sale from K-Mart. It's small (2.5 x 0.75 x 0.75") and has two built-in telco connectors. It consists of two chokes made from very fine wire (about 40-gauge I'd guess) both wrapped around two stacked ferrite bobbins.

As its wire is so very fine, it's difficult to tell just by looking whether the two windings are connected in- or anti-phase. This filter helped somewhat, but there was still plenty of interference remaining. I was now getting frustrated.

To put out a TFI test signal from my station with proper identification, I use a cassette player and a 30-second endless loop cassette (borrowed from an answering machine). The signal from the cassette player's external speaker output is padded down to a level suitable for the mic input of the station transmitter.

While moving wires around the phone during these tests, I found that when my hand or any piece of wire got near certain parts of the phone's base, interference increased.

Clearly, there was some capacitive coupling into the phone's audio amplifier circuitry. Active devices can make a telephone far more susceptible to RFI. Unfortunately for TFI, most phones these days have such circuitry.

I then added some shielding right below the phone's sensitive area (about one-half the board) using ordinary, heavy-duty aluminum foil. I made sure it was securely connected to the ground plane of the phone's circuit board.

Then I discovered that both sides of the board were sensitive to interference, so I put more shielding above the board too.

The biggest hazard is to keep the foil from shorting anything on the circuit board. I added protective layers of waxed paper and clear plastic food wrap between the foil and the board to avoid this.

Now, at 125 watts on 75 meters, when using the AT&T or the K-Comm filter and the foil shields, there is no interference. I still could not get the home-brew ferrite core filters to work though.

I recognize that a number of potential coupling modes exist, via capacitance and induction. In military EMI work for example, both radiation and conduction are considered.

There is still considerable interference on 160M, although this interference 'sounds' different than that on 75, as if it's being heavily clipped. 40 gives only a trace of interference. Please don't ask me yet about the other bands!

I wonder if the phone company issues QSL cards so I can get my *Worked All Telephones* award?

Postscript

If your telephone has a power cord (as with cordless phones), you may have to do some filtering there, too, using the same techniques.

I've found that the telephone filters from K-Comm are also effective. They come in both plug-in and component versions for installation inside of a phone or wall connector. Specify the frequency range desired: 0.5 to 3.0 MHz or 3.0 to 30 MHz. K-Comm, Box 82, Randolph, OH 44265. Telephone 216.325.2110. Plug in version is $16.95 postpaid. The instructions that are supplied with the filters are instructive.

A bit of TVI here was cured by using ferrite cores from the horizontal deflection yoke coils (the same ones that I got the wire from) out of a discarded TV set. As these

coils operate at about 15 kHz the cores are desirably lossy at higher frequencies, and best of all, they're free!

Even with cable television, I had TVI. So I ran the cable lead and the TV's power cord through some more cores. Wrap as many turns as you can manage through the cores. The VCR got similar treatment, as it is connected to the TV, and therefore was part of the pickup path. WR

Videotape your club meetings

Robert G. Rickey, NF6P

It's time that we start making videotape recordings of our friends and acquaintances who attend our radio clubs and activities, and then distribute copies. Almost every home has a VCR and a TV that can be used to review the videotape recording of a festive event. Usually there is someone, even in the smallest group, who owns or can borrow a video camcorder suitable for making the recordings. It is only logical then that attendees should be offered video recordings of meetings with their friends.

All it takes is a little organization and teamwork to produce a valuable tape recording of near-professional quality. The cost is surprisingly low.

The trick to success is organization and teamwork. First of all, it must be recognized that making a quality recording at a group gathering is not a one-person job. For several years I carried my video camera to meetings and took shots of as many of the attendees as I could in the time available. Many of those whom I would have liked to have photographed were involved in conversation or some other activity when I wasn't busy myself. As a result I always came away from those functions disappointed because I was unable to photograph all of the attendees and did not get the shots I wanted of even those attendees I was able to photograph. If a videotape is to have widespread appeal, all of those in attendance must be photographed and have approximately the same coverage time. It might also be desirable to record the guest speaker, if there is one, but shots of the attendees should be given first priority because it is those shots that will have lasting appeal.

At one meeting a truly good video recording was obtained. Prior to the meeting the president of our group announced to the on-the-air net that we would be making a video at the meeting and asked the members to cooperate. That bestowed a bit of status to the activity and as a result it was easier to get members involved. While I had tried to do it alone at previous meetings, this time sufficient help was available to do the job properly. It takes a minimum of three persons to make a good recording at a group activity. One person is the interviewer or 'master of ceremonies.' He keeps the recorded conversation lively. It is his job to interview all of the attendees and their spouses, in turn. Another person rounds up the attendees in time to take their turn at being interviewed. Finally, one person is the photographer. In this case it was my job. The three of us worked together like clockwork.

We set up in an area away from any bad lighting, and the noise and distractions of the crowd. The camera was set on a solid tripod and we used an FM remote microphone. A microphone with a cable long enough to reach from the camera to the subjects would have done just as well. The microphone built into the camera is unsatisfactory. The microphone needs to be held within a few inches of the speaker's lips just as does the microphone to your radio. This is especially important in a noisy environment.

We shot video non-stop, except to change subjects, for a little more than an hour and ended up with 42 minutes of recorded tape. Copies were mailed to the attendees. It is important to get copies of videos into the hands of the members. Otherwise they probably will never to see them and certainly would never have them at home to show.

The photographer, or someone, then makes copies of the tape for all who have indicated a desire to receive them and have paid for them. VCR blank tapes cost approximately $2.00 each in quantities of eight. The tapes can be mailed via US mail at the rate for books. For less than $4.00 each, copies of the tape can be made available to those who want them.

Why bother taking a video camera to a get-together? Aside from the fact that it is interesting to view images of your friends, especially as time passes, it is not unusual for friends on a net not to have clear mental images of each other. After all, they can talk for years on the radio without ever seeing one another. Finally, you never know when the opportunity to photograph someone will be lost forever. I treasure the shots taken of three members because they have become silent keys. WR

Tentative agreements for AEA

Some good news for owners of products manufactured by Advanced Electronic Applications Inc. Mike Lamb, N7ML, AEA's Chairman, has announced that it appears that the company will be able sell each of its three product lines to separate buyers.

Lamb said that letters of intent are in place and agreements are in the drafting stage. It's not known if any of the three companies will continue to use the AEA name, but it does appears as if AEA-designed data products, test analyzers and antennas will be available as many hams had hoped.

The broken boom of the HF Yagi can be seen easily. The mangled 2M beam is harder to spot.

Ice storm shuts down Spokane

Kyle Pugh, KA7CSP
ARRL Eastern Washington Section Manager

On Tuesday, 19 November 1996, an ice storm hit the Spokane and northern Idaho areas, the worst in over 50 years! Tree limbs and live power lines went down everywhere in town blocking streets and knocking out electric power to 100,000 utility customers. All schools closed down for the rest of the week. Telephone service was intermittent.

The Spokane ARES was activated by Emergency Coordinator Gordon Grove, WA7LNC, who dispatched operators to the Department of Emergency Management, the Red Cross, fire stations, and the utility companies, and for a time the hams were the only means of communication for these agencies to ensure safety for the community. Assisted by District Emergency Coordinator Pat Dockrey, NQ7M, many Spokane hams worked in shifts around the clock for a solid week. They volunteered many long hours of their time as Net Control stations and radio communicators for the Red Cross shelters, which ended up serving 14,400 meals to many people who had no heat or power. They continued until the shelters closed. The Spokane area hams deserve a lot of credit and "thank yous."

Over 40 line crews were working, many of whom came in from other cities, to repair downed power lines and cut up fallen tree limbs. Their work was slow and frustrating; as soon as they restored power in one area, it went out again in another area. By Thanksgiving 8,000 homes still were without power. Some were without power over a week. The power was off at my residence for only two days. We have a gas-fired fireplace insert and it kept us warm during this time so we did not have to leave the house. We stocked up on extra flashlight batteries and used a battery-powered radio to keep up with information as well as entertainment in a dim candle-lit living room. No TV!

We went out to a restaurant for a hot breakfast a couple of times, then had sandwiches later in the day. We kept our refrigerated food outside in picnic coolers. I would have barbecued some hot food, but I couldn't get to the barbecue which is on the deck because there was a tree in the way.

During the ice storm, a pine tree in our back yard snapped off in the middle and came crashing down across the electric service drop to the house and landed on our roof and deck, destroying and mangling two beam antennas that were mounted on the roof; a tri-band HF beam, and a 2-meter DX-120 beam. As frightening as that was, fortunately, there was no structural damage to the house.

Later my neighbor came over with a chain saw and got the tree cut up and removed from the deck and the electric service line which was surprisingly undamaged. A G5RV dipole survived because I had one end secured with a rubber bungee snubber. We really were pretty lucky! A number of homes in town were damaged by fallen trees and several hams sustained major antenna damage at their homes.

It could be another 50 years before we experience another such storm. WR

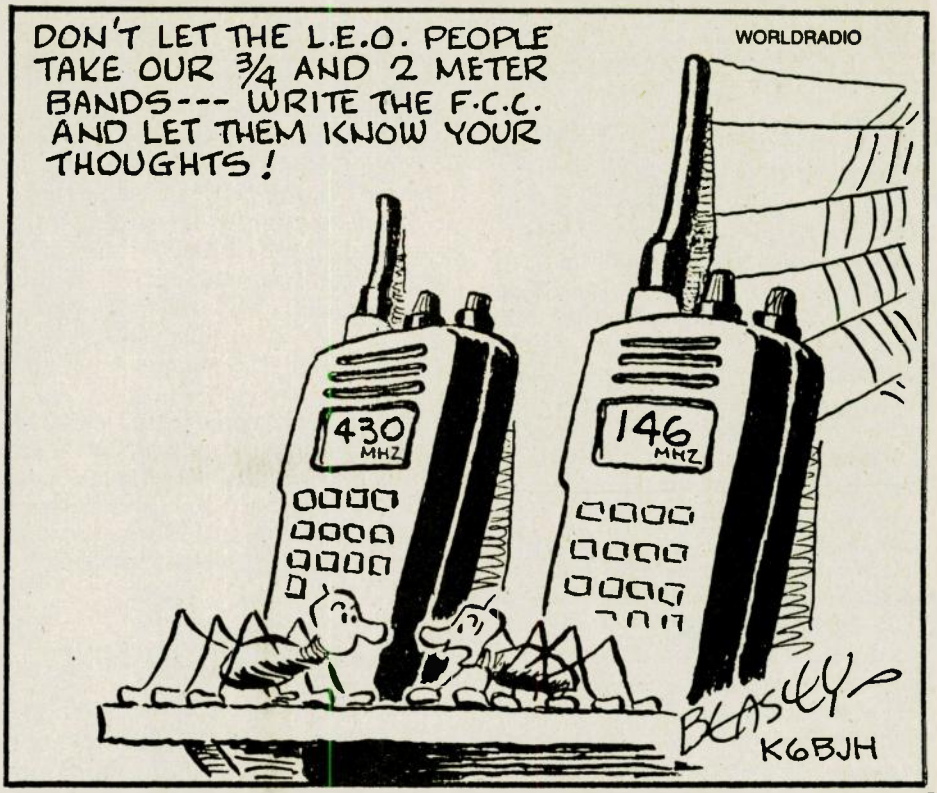
The tree that tore down our electrical drop is seen here wedged on the back deck.
—photos by N3LBW

ARRL Letter becomes electronic-only publication

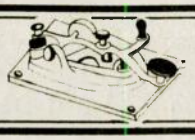
The *ARRL Letter* has gone to 100% electronic delivery, and will no longer mail out paper copies. The decision to go paperless was announced in the December 13th issue and is part of an ongoing austerity move by the League.

The League says it has been losing close to $12,000 a year on the mail-out version. It says that paid subscribers to the paper version can request a credit or a refund and that affected subscribers will be notified of their options by mail.

The ARRL Letter began in 1982 as a League member-only subscription publication. Last January, it instituted electronic distribution plus weekly electronic updates via the Internet. At that time, paper distribution by mail went from semimonthly to monthly. Subscribers who have Internet access and wanting more information can visit the ARRL Home Page. It's at: www.arrl.org



Silent Keys



Mickey M. McDaniel, W6FGE

Long-time ham, and Elmer to many, Mickey M. McDaniel, W6FGE, became a silent key 23 November 1996. He was 77 years old.

According to his cousin Dan Molver, W7DOP, Mick was first licensed as W7FGE in the middle 1930s. He obtained the call W6FGE when he moved from Oregon to California after serving in the US Navy during WWII. He was employed for many years by the Ryan Aeronautical Company, currently Teledyne Ryan Aeronautical.

He made his home in the Point Loma area of San Diego. For several years after retirement and prior to the advent of the present VE system, Mick conducted Novice classes for individuals at his home. He was also a member of QCWA.

There are many who were assisted by Mick in getting their Amateur Radio licenses, and who will be saddened to learn of the loss of this witty, and kindly man. —*contributed by Thurman Smithey, N6QX*

Daniel E. Lewis, N9PKT

Dan Lewis, N9PKT, died December 7, 1996 in Mattoon, Illinois from injuries sustained in a motorcycle accident. Dan enjoyed many aspects of the Amateur Radio hobby including packet, UHF, VHF, hamfests and watching for bad storms.

He helped several local hams with tower and antenna work and liked to work with electronic components. Dan was the recent owner of an excellent local UHF repeater.

Dan talked to many hams in area states when he drove a truck for a living.

He helped many who were interested in the hobby. Survivors include his fiance Rachel Wright, his father Richard and a brother and sister. —*contributed by Tom Gover, N9PLB*

NEWSFRONT
(continued from p. 3)

ARRL again asks for primary allocation on 2300-2305 MHz

Recognizing the value of our UHF bands, the ARRL is once again asking the FCC to assign 2300 to 2305 MHz as a primary allocation to the Amateur Radio Service. The request was made in comments filed in response to the FCC's plans to reallocate and auction off parts of the 2.3 GHz band for a new Wireless Communications Service.

In its filing, the ARRL asks the Commission to create a primary amateur allocation in the 2300 to 2305 MHz segment. It also wants the FCC to maintain a secondary ham allocation in the 2305 to 2310 MHz band.

Under Docket 94-32 the League had already petitioned the FCC to upgrade the 2300 to 2305 MHz band to primary status. Now, in its comments on General Docket 96-228 the ARRL suggests that the FCC upgrade the status as part of the current proceeding instead.

All of this comes about because of congress. Just prior to adjourning, the 104th Congress directed the FCC to reallocate 2305 to 2320 MHz and 2345 to 2360 MHz to wireless services. It also said to assign new licenses by competitive bidding by 15 April in order to help balance the budget. This action led to the FCC issuing General Docket 96-228 and opened the door for the ARRL to file for the allocation change. *—via ARRL Letter*

New Indiana young ham

It's no secret that young hams are the real future of ham radio. In fact, without kids, ham radio really has no future at all. So it's nice when we hear about a young person that is so eager to join our ranks that everything else takes second place.

After nearly a year of trying, an eight-year-old Clark Elementary School student near Franklin, IN has earned his no-code Technician license.

Cory Bregera, KB9OXU began his quest for an Amateur Radio license while attending the first grade. He expressed a desire to be a ham like his mom and dad, Joe Bregera, K9ZPA, and Karen, N9KMA. They say Cory often talks about learning the code and passing his General Class license so he can talk around the world on CW.

The first night Cory received his new call sign he caused a pileup on 6 meters. Using his dad's radio, Cory called "CQ" and had several east coast stations respond. Joe says his son has become a regular ragchewer.

Cory's new license completes the Bregera family Amateur Radio operators. Their teenage son Jesse, KB9NZB, earned his Tech license earlier this year. Congratulations to Cory and to the entire Bregera family.

Medal to Shannon Lucid

She may not be a ham, but she did operate a lot of ham radio from space on special waiver. Now, astronaut Shannon Lucid has awarded the Congressional Space Medal of Honor. The medal was given to Lucid on 2 December in recognition of her six-month stay aboard MIR. *—via Amsat*

New Packet directory

The ARRL has dropped digital listings from next year's repeater directory, but thanks to Tucson Amateur Packet Radio Incorporated, the information is not going away. TAPR as the group is better known, says that it will soon be providing details on digital systems throughout much of ITU Region 2 at its site on the Word Wide Web.

The new TAPR Digital System Directory will describe systems used by amateur radio stations involved in digital communications in United States, Canada, and Mexico. It will be based on information provided by regional, state, and local organizations as well as individuals in a nearly real-time format. This says TAPR, should allow information to be maintained and updated more frequently than in a annual publication.

TAPR says that it will also work with participating digital organizations to make this information available on its yearly CD-ROM. It's also considering some future publication for local or regional groups to distribute.

For further information on the project please check the World Wide Web at:

www.tapr.org/directory or send e-mail to Carl Estey at waØcqg.tapr.org. *—via TAPR*

FAR scholarships

The Foundation for Amateur Radio Inc. plans to administer 60 scholarships for the 1997-98 academic year to help licensed radio amateurs with their post-secondary education. Five of the scholarships are fully funded with income from grants and the foundation's annual hamfest in Gaithersburg, Maryland. FAR administers the remaining 55 scholarships without cost to the donors.

Licensed hams are eligible to compete for these awards if they plan to pursue a full-time course of study beyond high school and are enrolled or have been accepted at an accredited university, college or technical school. Awards range from $500 to $2,500, with preference given in some cases to those pursuing certain courses of study or to residents of specific geographical areas.

Application forms and additional information are available by letter or QSL postmarked prior to 30 April 1997, from FAR Scholarships, 6903 Rhode Island Ave., College Park, MD 20740.

DARA Scholarships

The Dayton Amateur Radio Association, Inc. is once again offering scholarships to hams graduating from high school in 1997. They are offering 8 scholarships in the amount of $2,000 each. For an application, send SASE to Dayton Amateur Radio Association Scholarship Committee, 45 Cinnamon CT Springboro, OH 45066.

Awards

Atlantic Division ARRL Award nominations

Kay Craigie, WT3P

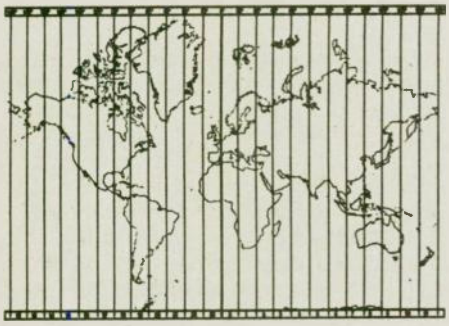
Nominations are now being sought for the 1997 awards to be presented at the ARRL Atlantic Division Convention. The convention is held in association with the Rochester, New York Hamfest 30 May-01 June 1997. The awards are commemorated by handsome plaques to be presented at the hamfest banquet.

"Amateur of the Year" nominees should be outstanding all-around amateurs from the Atlantic Division with a strong record of service the amateur community.

An award for lifetime service to Amateur Radio, the "Grand Ole Ham," is open to Atlantic Division OMs and YLs who have been licensed at least 30 years or are at least 50 years of age. The Atlantic Division "Technical Achievement" award may be presented to an individual or to a group.

Complete information on the awards and nomination procedures is available from Atlantic Division Vice Director Bernie Fuller, N3EFN, 17668 Price Rd., Saegertown, PA 16433; e-mail n3efn@arrl.org. The deadline for nominations is 01 April 1997. Contact:

Kay Craigie, WT3P
Director, Atlantic Division ARRL
5 Faggs Manor Lane
Paoli, PA 19301
e-mail: wt3p@arrl.org



Contact All Time Zones

To help commemorate 25 years of *Worldradio,* we announce a new award to be known as "Contact All Time Zones" (CATZ).

Rules

The start date for valid contacts is 01 July 1996 at 0000Z.

The world is divided into 24 time zones. Each time zone is 15 degrees wide. For the sake of this award, half-hourly zones and out-of-zone artificial time changes will be ignored.

This award is based on the true 15 degrees each, world map 24 time zones.

The applying station must have one (two-way) contact on Amateur Radio allocated frequencies with a station in each of the world's 24 time zones. Contact with one's own nation does not count.

The operator applying for the award must have made all 24 contacts from a location within the same country.

The award may be endorsed as the applicant wishes in regard to band and/or modes.

Application

The applying radio operator must be in possession of 24 QSL cards, one from each of the time zones

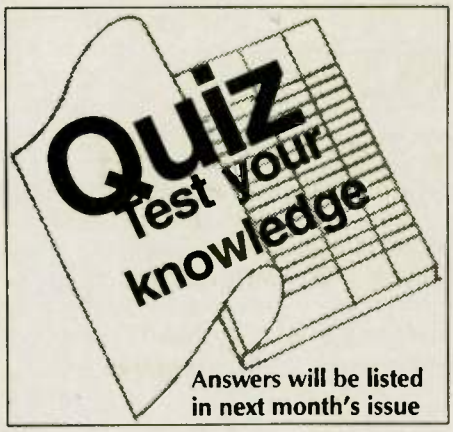
A list shall be made showing each contact's call sign, date, band, mode and the time zone starting with the prime meridian (0°) and moving eastward.

There is a fee of $5 to cover the cost and mailing of the 8 x 10 certificate (mailed unfolded).

It is not necessary to mail your QSL cards to ***Worldradio.*** Send a statement signed by two other licensed radio amateurs (General Class or above) that they have inspected and verified the required QSL cards.

Address applications to CATZ Award, ***Worldradio,*** 2120 28th St., Sacramento, CA 95818.

Those receiving the CATZ award will have their name and call sign reported in the ***Worldradio*** DX column. **WR**



The answers to the quiz questions for last month are: 88. A; 89. D; 90. C; 91. B; 92. D; 93. A; 94. D; 95. A; 96. B; 97. C; 98. A; 99. B; 100. A; 101. B; 102. A; 103. D; 104. C; 105. A; 106. D; 107. D; 108. A

109. What is the most the actual transmit frequency could differ from a reading of 432,100,000-Hertz on a frequency counter with a time base accuracy of +/- 10 ppm?

A. 10 MHz
B. 10 Hz
C. 4321 Hz
D. 432.1 Hz

110. What is a dip-meter?

A. A field strength meter
B. An SWR meter
C. A variable LC oscillator with metered feedback current
D. A marker generator

111. Why is a dip-meter used by many amateur operators?

A. It can measure signal strength accurately
B. It can measure frequency accurately
C. It can measure transmitter output power accurately
D. It can give an indication of the resonant frequency of a circuit

112. How does a dip-meter function?

A. Reflected waves at a specific frequency desensitize the detector coil
B. Power coupled from an oscillator causes a decrease in metered current
C. Power from a transmitter cancels feedback current
D. Harmonics of the oscillator cause an increase in resonant circuit Q

113. What two ways could a dip-meter be used in an amateur station?

A. To measure resonant frequency of antenna traps and to measure percentage of modulation
B. To measure antenna resonance and to measure percentage of modulation
C. To measure antenna resonance and to measure antenna impedance
D. To measure resonant frequency of antenna traps and to measure a tuned circuit resonant frequency

114. What types of coupling occur between a dip-meter and a tuned circuit being checked?

A. Resistive and inductive
B. Inductive and capacitive
C. Resistive and capacitive
D. Strong field

115. How tight should the dip-meter be coupled with the tuned circuit being checked?

A. As loosely as possible, for best accuracy
B. As tightly as possible, for best accuracy
C. First loose, then tight, for best accuracy
D. With a soldered jumper wire between the meter and the circuit to be checked, for best accuracy

116. What happens in a dip-meter when it is too tightly coupled with the tuned circuit being checked?

A. Harmonics are generated
B. A less accurate reading results
C. Cross modulation occurs
D. Intermodulation distortion occurs

117. What factors limit the accuracy, frequency response, and stability of an oscilloscope?

A. Sweep oscillator quality and deflection amplifier bandwidth
B. Tube face voltage increments and deflection amplifier voltage
C. Sweep oscillator quality and tube face voltage increments
D. Deflection amplifier output impedance and tube face frequency increments

118. What factors limit the accuracy, frequency response, and stability of a D'Arsonval movement type meter?

A. Calibration, coil impedance and meter size
B. Calibration, series resistance and electromagnet current
C. Coil impedance, electromagnet voltage and movement mass
D. Calibration, mechanical tolerance and coil impedance

119. What factors limit the accuracy, frequency response, and stability of a frequency counter?

A. Number of digits in the readout, speed of the logic and time base stability
B. Time base accuracy, speed of the logic and time base stability
C. Time base accuracy, temperature coefficient of the logic and time base stability
D. Number of digits in the readout, external frequency reference and temperature coefficient of the logic

120. How can the frequency response of an oscilloscope be improved?

A. By using a triggered sweep and a crystal oscillator as the time base
B. By using a crystal oscillator as the time base and increasing the vertical sweep rate
C. By increasing the vertical sweep rate and the horizontal amplifier frequency response
D. By increasing the horizontal sweep rate and the vertical amplifier frequency response

121. How can the accuracy of a frequency counter be improved?

A. By using slower digital logic
B. By improving the accuracy of the frequency response
C. By increasing the accuracy of the time base
D. By using faster digital logic

122. What is the condition called which occurs when the signals of two transmitters in close proximity mix together in one or both of their final amplifiers, and unwanted signals at the sum and difference frequencies of the original transmissions are generated?

A. Amplifier desensitization
B. Neutralization
C. Adjacent channel interference
D. Intermodulation interference

123. How does intermodulation interference between two transmitters usually occur?

A. When the signals from the transmitters are reflected out of phase from airplanes passing overhead
B. When they are in close proximity and the signals mix in one or both of their final amplifiers
C. When they are in close proximity and the signals cause feedback in one or both of their final amplifiers
D. When the signals from the transmitters are reflected in phase from airplanes passing overhead

124. How can intermodulation interference between two transmitters in close proximity often be reduced or eliminated?

A. By using a Class C final amplifier with high driving power
B. By installing a terminated circulator or ferrite isolator in the feed line to the transmitter and duplexer
C. By installing a band-pass filter in the antenna feed line
D. By installing a low-pass filter in the antenna feedline

125. What can occur when a non-linear amplifier is used with a single-sideband phone transmitter?

A. Reduced amplifier efficiency
B. Increased intelligibility
C. Sideband inversion
D. Distortion

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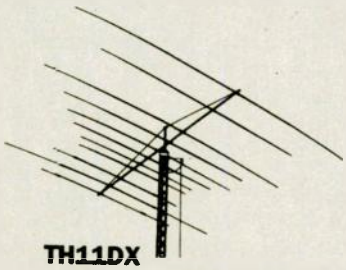
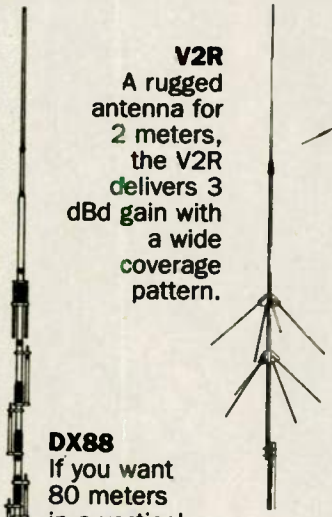
From the world's leading antennas and rotators to warranties, after-sale support and responsive, knowledgeable customer service, Hy-Gain by Telex is the amateur's preferred choice for exceptional performance and extraordinary reliability.

Highlighted here is just a sampling of innovative products from Hy-Gain. For detailed information about these and many more Hy-Gain products and accessories, write, phone or FAX today.

DX77 Advanced Vertical Windom
This advanced vertical antenna provides 55% greater bandwidth on 20 and 40 meters, and requires no ground radials.



TH11DX
This uniquely designed antenna provides the frequency coverage of a log periodic, **plus** the performance of a monobander.

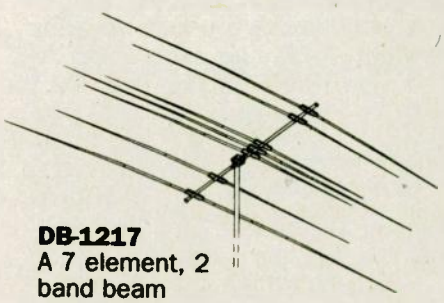


V2R
A rugged antenna for 2 meters, the V2R delivers 3 dBd gain with a wide coverage pattern.

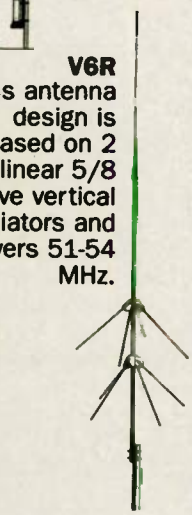
TH3 Mk4
A classic tribander, the TH3 Mk4 is an ideal choice for home stations and DXpeditions.

DX88
If you want 80 meters in a vertical, this is your antenta. Better bandwidth than found in add-on kits.

Ham V with DCU-1 Digital Control System
The Ham V is designed for medium communications antenna arrays of up to 15 sq. ft. (1.4 m2) wind load area. The **DCU-1** features digital and analog displays with six presets, automatic brake delay, motor slow down, automatic calibration and programmable center of rotation.

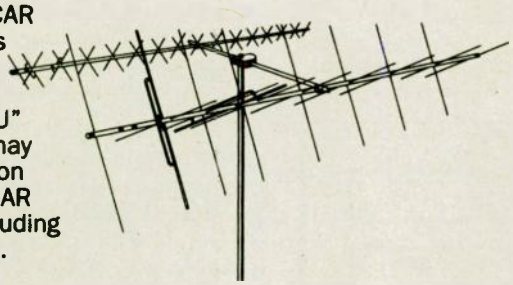


DB-1217
A 7 element, 2 band beam antenna designed for operation on the 12 and 17 meter amateur bands, and packaged for DXpeditions.



V6R
This antenna design is based on 2 collinear 5/8 wave vertical radiators and covers 51-54 MHz.

OSCAR LINK
Hy-Gain's OSCAR LINK antennas are ready for Phase 3D on the "V" and "U" bands. They may also be used on the other OSCAR satellites, including the new JAS-2.



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Off the air

Worldradio
2120 28th Street
Sacramento, CA

Code as an option?

I read, and wholeheartedly agree with the letter written by David T. Powers, KB8RVS in the Off the Air column in the January, 1997 issue.

I am an avid CW man now, but have not always been so. About 3 years ago the CW bug bit hard, and since then, 90% of my HF contacts are CW. I finally got comfortable with it after 14 years of being a ham. I just *made* myself use CW and I really got to like it. Now much of my time on the radio is spent ragchewing where ever I can find some good signals.

I am also sympathetic toward those who find code difficult to learn, perhaps more so because my own brother Glenn, NØPNQ, is one of those people. He struggled with the code for 9 long years before he could pass his 5 wpm code test. That was about 3 years ago and he still can barely copy 5 wpm. We used to have skeds on 80 Meters but we are just close enough (185 miles apart) that propagation is lousy most of the time. He had to rely mostly on his computer to copy for him, even though he tried his best to copy by hand. He has spent hundreds of dollars on tapes, books, computer programs, etc. just to get to the 5 wpm level. There is a long lag between the time he hears the code sound and the time he recognizes what letter it is.

Glenn is now serving his second term this year as President of the McDonnell-Douglas ARC in St. Louis. Why did they re-elect him? Because he has good ideas and wants the club to progress. Just because he can't master CW does not make him incompetent at other things connected with ham radio. It is indeed unfortunate that some see it that way.

I would like to carry Mr. Powers' comments a step further. I also think that CW should remain as an effective mode of operation, but let's make the CW requirement an *option* instead. That way, those who wish to pursue the CW skill can do so and those who do not want to do CW or can't master it, do not have to take the code test. Those who do not want to do code would be confined to the phone and data portions of the bands. I am sure there are many hams who can't master the code who would make excellent phone and data operators...like my brother.

John E. Gercken, KA9EPO
Bellflower, IL

Get on with it, already!

In a time of commercial-controlled Congress, budget deficit paranoia, and ever increasing desires for frequency space for commercial use, reality must set in. Our only viable reason for existence is Public Service. Public Service needs do not justify all the VHF-UHF and above allocations we have.

What is necessary is to offer to give up "x" amount of frequency in exchange for laws guaranteeing the rest will be legally ours for at least the next 100 years, if not permanently. If we keep battling over every piece of spectrum every single time a company eyes a chunk, they are going to wear us down financially and apathy is going to infect more and more. Poor morale in the face of the current LEOs, local control of RFI, and RF exposure testing is already spreading. There's less activity on the bands around here than I've seen in years.

I don't care what old club arguments, class bigotry, or any other petty excuse people use and have used for separating all over the spectrum and not working and talking together. This garbage should never have happened and it cannot continue if Amateur Radio is to stay alive. We need to all pull together, face up to reality, and get on with it.

Two Meters, with its range and propagation is the traditional backbone of Public Service with the largest number of repeaters of any band allocation nationwide and *must* be retained. Public service and Amateur Radio can continue without most of our UHF and allocations.

If we don't do this now, we are going to be carved away until this is just an HF-only hobby. I don't want to see that and neither do you.

Michael C. McCarty, KG8XF
Galloway, OH

SKYWARN weather observation training

Michael G. Redman, KAØYXU

The annual St. Louis County SKYWARN Severe Weather Observation Training seminars have been scheduled for 1997. Four all-day training seminars are planned at various locations around St. Louis county. SKYWARN Level 1 training is presented in the morning, and classes resume in the afternoon with the Level 2 program.

Dates for the training are 15 and 22 March, 5 and 12 April 1997.

For locations, call the Severe Weather Information Line at 314/889-2857 for a taped message and additional information.

All are welcome including those from outside the area; no advance registration required, free parking, certification provided for RACES and SKYWARN, all at no cost.

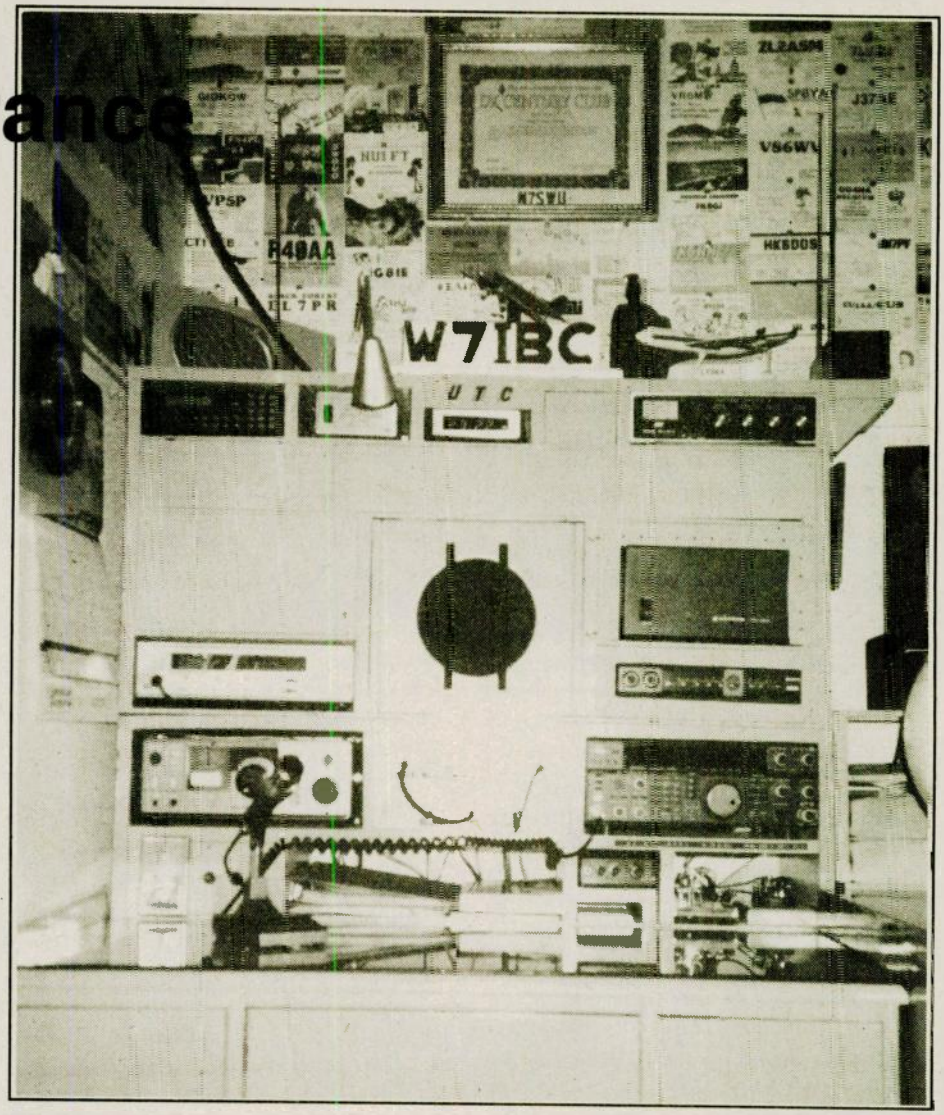
Come and be a part of the largest SKYWARN program in the area.

Ham using HT QSOs MIR

Shortly before the damage occurred to the MIR antenna, Ed Tenhulzen, WH6CXQ, in Pearl Harbor, Hawaii, reported that he worked Valeri Korzun operating on 145.55 MHz as RØMIR aboard the Mir space station on 28 October. Ed was on his lunch hour at the time, running 2.5 W to a Yaesu FT-208R and a mobile 5/8-wave antenna. Ed's Friend, Ted Brattstrom, NH6YK, also worked RØMIR. —*via Amsat, ARRL*

Station Appearance

Albert T. Lenny, W7IBC



*Send **Worldradio** a picture of your shack and the staff will choose a winner to receive a free one-year subscription to **Worldradio**!*

Stations will be judged by neatness (wires tucked away, etc.) and accessibility of equipment. Monetary value of equipment is not a consideration.

I received my first license as W7IBC in 1940 before joining the US Navy later that year and serving as a Radioman. Most of my ham career has been spent on 20 Meter CW, but I also enjoy operating on 10 and 15 Meters SSB when they are open. I hold an Extra Class license and am a member of the ARRL, DXCC, QCWA and OOTC.

My former calls were W6TNA and N7SWU. I retired in 1974 after 24 years in Air Traffic Communications with the Federal Aviation Administration (FAA).

Pictured above, starting with the lower console, (from left to right) is a master AC line, control logs and directories, a Realistic digital signal processor, Vibroplex bug and straight key.

Second row (left to right): R-1000 SWL receiver, audio patch panel, TS-850 Kenwood transceiver.

Third row (left to right): Realistic PRO-2 PS band receiver, speaker, Sony TR-8460 aircraft band receiver.

Fourth row (left to right): speaker, Astron RS-20A 12V power supply.

Top row: Realistic Pro-2030 scanner, Realistic 12V power supply, MFJ 24-hr digital clock, MFJ-941E antenna tuner. Just above the world globe is a Realistic HTX-202 2-meter HT. **WR**

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**!*

Turn about's fair play

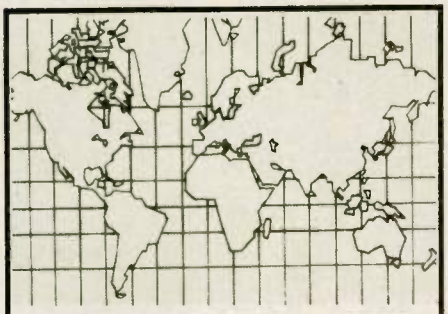
John Mason, K6MLU

In 1956, I passed my Novice test. It was administered by Sandy Sandefur, K6ADU, and Vince Capasso, K6ECV.

In the intervening years, Sandy had let his license lapse.

On 9 December 1996, I was able to administer the Novice examination to Sandy, and after it was graded, handed him the certificate of successful completion

Has anyone else been able to do this, after so many years? **WR**



DX WORLD

John F.W. Minke III, N6JM
P.O. Box 310, Carmichael, CA 95609-0310

W-100-N

There were no applications for ***Worldradio's*** *Worked 100 Nations Award* received during the month of November. Who is going to be the first to apply for CATZ? See page 23 for details.

Belarus (EU)

EU3FT was the only call reported from this one. He was worked near 3.508 MHz at 0100 UTC on 3 November and between 7.004 and 7.006 MHz at 0300 UTC on 6 and 13 November.

Wallis & Futuna (FW)

The operations by DJ2EH signing with FW2EH ended on or about 4 November. He was reported on several bands including 17, 40, 80 and 160 Meters.

Also reported was FW2OI on 14.195 MHz at 2200 UTC and 18.148 MHz at 1845 UTC.

Grenada (J3)

Very active during the *CQ* Worldwide DX Contest in November was J39A, a multi-operator effort on all bands. It is assumed this was the effort of the Yankee Clipper Contest Club and was originally to sign with J38AA. They were hoping for a shorter call. Evidently, it was J39A. If you were looking for Grenada you missed a good opportunity to pick up this one on several bands.

Earlier during the month of November, Gerd Uhlig, DL7VOG, was busy signing with J38GU from Grenada. His operation included several bands of CW and RTTY contacts. He since moved on to St. Vincent with the call J87GU. J37LK was reported twice: 14.247 MHz at 2215 UTC on 1 November; and 14.222 MHz at 1730 UTC on 9 November.

Belau (T8)

This is the former Palau (KC6) and once part of the Western Caroline Islands. The T8 is their brand-new prefix. The *DX Bulletin* reports that the equipment at T88T was damaged beyond repair and is presently off the air. This call is assigned to the Oklahoma DX Group. Two other calls with the new prefix were reported, both on 40 Meters after 1400 UTC on 7.007 MHz. These calls were T88GY on 10 November and T88YY on 8 November.

Brunei (V8)

Also active in the *CQ* Worldwide DX Contest in November was V85HG, operated by Hajime, JO1RUR. Two other reports made by V85HY were reported on 7.004 MHz at 1600 UTC on 10 November, and a V8ATG on the same frequency around 1130 UTC on 2 November. The latter call seems strange. Perhaps it was an error in reporting?

St Helena Island (ZD7)

Inside DX reports that Johnny, ZD7WRG, should be active for several months on 40 and 80 Meters SSB. He has been reported on 20 Meters near 14.205 and 14.245 MHz at 2100 and 1930 UTC respectively. However, he is quite active on 15 Meters after 1830 UTC between 21.267 and 21.355 MHz.

Another call on the bands has been Chris, ZL7HI. He has been found between 14.225 and 14.247 MHz from 2100 to 2300 UTC, and between 21.250 and 21.355 MHz after 1700 UTC. Other calls reported from St Helena Island include the following:

ZD7BG	7.001 MHz	2330 UTC
ZD7DP	14.170 MHz	1930 UTC
ZD7JI	14.240 MHz	2030 UTC
ZD7JP	21.305 MHz	1800 UTC
ZD7OK	21.290 MHz	1415 UTC

A check with my own DXCC records shows that I have this one confirmed only on 10 Meters and that was several years ago. Maybe it's time I take a look around. For IOTA purposes St Helena Island has the reference number AF-022.

IOTA

Here is a selection of various IOTA islands reported during the month of November.

AS-075	Taipa Island	XX9TRJ
EU-167	Pessegueiro Island	CT1EEB/P
EU-146	Schouwen-Duiveland	PI4ZWN
NA-031	Conanicut Island	KA3UNQ/P
NA-036	Vancouver Island	VE7IM
NA-055	Vinalhaven Island	AK1L
NA-069	Florida State West group	K2OLG/M
NA-085	St. George Island	AC4TD
NA-111	New Jersey State group	N2MT
OC-169	Lifuka Island	A35RK
SA-028	São Paulo State East	PS2S

For contacts with Macao (AS-075) as with Hong Kong (AS-006), be sure your contact is on an island and not the mainland. Most of the stations of these two countries are on the mainland. If you worked IG9/IT9GSF during the November Worldwide DX Contest you landed Lampedusa Island (AF-019).

Three IOTA chasers: Jose de Sa, CT1EEB; Jose Lopes, CT1CJJ, and Tom Webster, WT2O, spent the day on Pessegueiro Island (EU-167) on 17 November 1996. They were able to obtain transportation from a local fisherman who took them to the island. They made 513 contacts in 4 hours of operation. The island was listed as the most wanted in the IOTA program.

1997 IOTA Directory

The latest *RSGB IOTA Directory and Yearbook* is now available. Edited by Roger Balister, G3KMA,

this is a must to all of you island hunters out there. Roger explains how the millennium will be an exciting time for IOTA, starting with IOTA-2000, an IOTA activity period.

Also included are reports on recent IOTA conventions and meetings, Honor Roll and Annual Listings, rules and awards information, and a complete list of island groups with reference numbers. An added feature to this directory are the rules of other non-IOTA island awards, such as the Canadian Islands Award and the United States Island Award.

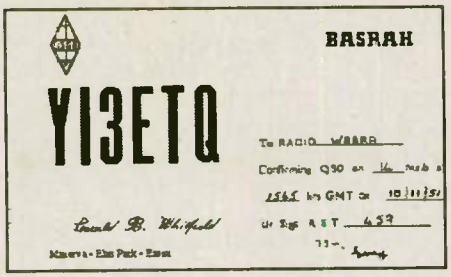
To be active in the IOTA program one must possess an *IOTA Directory*. However, it is not required that you purchase a new directory each time a new one is published. Amateurs in North America only may purchase the directory from Dewitt L. Jones, W4BAA, P.O. Box 8695, Lacey, WA 98509. Cost is $15, post-paid.

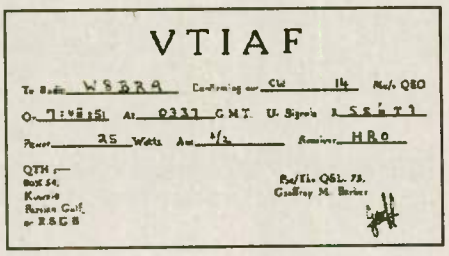
Antique QSL Department

I may have been incorrect in crediting Walter R. Gilbert, W1SO, as the cartoonist referred to as Gil in the December issue. Phil Kellen, K6CJ, set me straight on this one. The real Gil was Philip Gildersleeve, W1CJD, and I should have known that. Being that both had Gil in their names and were from Connecticut it wasn't hard for me to err here. My age is catching up on me!

The following cards are not as old as I am and are submitted by ***Worldradio*** subscriber Dave Kennedy, K4SU. Many old cards from Dave have graced the pages of this column through the past several years. Dave worked Maurice Artigue, FA8IH, of Algiers almost 50 years ago on 15 March 1947. Dave was then operating as W9TWC. Maurice is now F8AH and Dave worked him again in 1990. At that time he was 84 years old.

The card from YI3ETQ in Iraq





dates from 1951. Operated by RSGB member Gerald B. Whitfield in Basrah, Dave worked this one as W8BRA, another one of Dave's many calls. Gerry did not indicate his British call so it is not known if he is still active. Also from the year 1951 is a contact with VT1AF of Kuwait. Dave worked Geoffrey M. Barber on 20 Meters CW and received a 569 report. As for Geoff, his whereabouts are also unknown. Notice he was running just 25 watts to a half-wave antenna. Receivers were not as sophisticated in those days and that would have been a well-earned contact. Geoff was using an HRO receiver by National Radio.

Miscellaneous

Several DXers have been disappointed recently upon hearing calls from the Pacific, such as AH7G. One's immediate reaction is Kure Island! Unfortunately, such calls are Amateur Extra Cass calls now being issued for Hawaii.

Vince Thompson, K5VT, is the new Southwestern Division representative to the DX Advisory Committee (DXAC), filling the position held by John Alexander, K6SVL, now a Silent Key. Vince is a well-known DXer and DXpeditioner.

The results of the 1995 Japan International DX Phone Contest indicated that there were only 12 entries from the United States. I'm sure there were many more who were active during the contest, but they didn't bother to submit a log. WB6ITM worked a mere nine con-

QSL Routes

These QSL routes come from several sources and cannot be guaranteed. Please report any errors.

3C5Z	—N6ZZ	KG4ML	—WB6VGI
3DA0CA	—W4DR	KH0DQ	—JF1SQC
3DA0NX	—ZS6CAX(*1)	KH4/W7VWR	—W7VWR
3E1DX	—KU9C	KH8/AA5BL	—N5JA
4A1FEC	—XE1BEF	KP3V	—KD8IW
4F3CV	—HB9CXZ	KP4RV/SV/TN/	
4K0CW	—DL6KVA	VP/WN	—KD8IW
4L5A	—IK3HHX	L75AA	—LU4AA
5N0MVE	—ON7LX	LX/DF0BK	—DL8SCG
5T5U	—JA1UT	LX4B	—LX1TI
5V7A	—GM4AGL	M6G	—G1AHM
5X1P	—G3MRC	M6N	—G3WOI
5X4DLI	—KK4EW	M6T	—G3XTT
5X4F	—K3SW	MI6I	—GI0UJG
7Q7EH	—AA9HD	MS0ALN	—GM0ALN
7Z5OO	—W1AF	NH2G	—WF5T
8P9Z	—K4BAI	OE3S	—OE2GEN
8R1K	—OH0XX	OH0MAM	—OH2MAM
9A11ELS	—9A2AA	OI0MEP	—OH3MEP
9H3XF	—IZ3AHY	OI2E	—OH2IW
9J2SZ	—SP8DIP	OI7T	—OH7AAC
9K2RA	—Bureau	OT6T	—ON4UN
9L1KA	—W0HSC	P40W	—N2MM
9M6NA	—JE1JKL	PI4ZWN	—PA3FIA
9M8HIM	—JH2GAS	PJ8M	—N7RT
9V1ZB	—JA3WSL	PJ8RT	—N7RT
A35RK	—KK6H	PJ9E	—K2SB
A61AF	—AA6DC(1*)	PT2TF	—KF0UI
AH7G	—N2AU	PY0FF	—W9VA
C21BH	—OH2BH	R1ANZ	—UW1ZC
C4CQ	—5B4AEA	RA2FBT	—DJ1OJ
C6AHF	—N6RA	RJ8JAB	—EY8CQ
CP6AA	—OH0XX(1*)	S79MAD	—GW4WVO
CT1CJJ/P	—CT1CJJ	SV5/K7AR	—AA6BB
CT1EEB/P	—CT1EEB	T82AA	—LX2AA
CT1/WT2O/P	—WT2O	T9/WA5IKQ	—KH6BZF(*1)
EA7BR/P	—EA7BR	TJ1PD	—N5DRV
EA8EA	—OH2KI	TM0ZK	—F5OZK
EV5DX	—DL1OY	TM1C	—F2VX
EW1CZ/WZ	—DL1OY	TM2Y	—F6BEE
EY1ZA/2O/50V		TU4FF	—OH8SR
8AB	—EY8CQ	TZ6LL	—DL1FCG
EY8CQ/R3Q	—EY8CQ	TZ6VV	—AA0GL
FH/F6HWU	—F6HWU	UC1AWZ/2AKP	—DL1OY
FK5M	—F6AJA	UJ8CQ	—EY8CQ
FS/W2QM	—W2QM	V2/G6QQ	—G6QQ
FS5PL	—KF0UI	V26BP	—WB2P
FT5ZG	—F5RQQ	V47KP	—K2DQX
FW2EH	—DJ2EH	V47VJ	—G4ZVJ
G3NYY/C6A	—G3NYY	V47WD	—G4RWD
G4VXE/C6A	—G3SWH	V5/ZS6YG	—KY0A
GM6V	—GM4CXM	V59T	—N2AU
GM6X	—GM4FDM	V85HG	—JH7FQK
GM6Z	—W5ASP	VA1S	—VE1AL
GU3HFN	—ZL2TT	VP5EA	—WD5N
HC8N	—AA5BT	VP9HE	—KD8IW
HF0POL	—SP3FYM	VQ9DM	—W4QM
HH2AW	—9A2AJ	VQ9IE	—WY8Q
HK6W	—HK6KKK	VS6WO	—K9EC
HR6/WA6VNR	—WA6VNR	WH0ABC	—JR6OCL
HS0AC	—WA0RJY	XE3AAF/WAO	—KD8IW
HS8AS	—E21AOY	XO7A	—VE7SV
IC8/IZ8ANA	—IK8VRS	XT2DM	—F5RLE
IG9/IT9GSF	—IV3TAN	XX9TEL	—JH2KAG
IR0A	—IK0QDB	XX9X	—OH2BH
J3/WJ2O	—WJ2O	XY1HT	—LA7JO
J38AA	—KQ1F	XY1U	—JA8RUZ
J38GU	—DL7VOG	XZ1N	—W1XT
J3K	—WB8GEX	YB1AQS	—DK7YY
J52IM	—N5YWT	YB9BV	—AA7VB
J6DX	—N9AG	ZA1AJ	—OK2ZU
J87GU	—DL7VOG	ZB2X	—OH2KI
JA4GXS/JD1	—JA4GXS	ZD7JP	—N5FTR
JA8FCG/JD1	—JA8FCG	ZD7WRG	—WA2JUN
JF4LNO/JD1	—JA4GXS	ZF2AY	—K9LA
JN4AWW/JD1	—JA4GXS	ZF2HR	—N5HRG
JQ1SUO/JD1	—JQ1SUO	ZF2MK	—K9MK
JT1FBT	—NI7T	ZF2RF	—K4UVT
JW5NM	—LA5NM	ZS8IR	—ZS6EZ
JY8YB	—DL5MBY		

Notes:

*1. Please QSL DIRECT ONLY; no Bureau cards.

tacts on 20 Meters and K6ILM worked only seven contacts on 75 Meters. Both of these gentlemen took the time to submit their logs. For their efforts they were the North America Plaque Winners.

DX Prediction — February 1997

Maximum usable frequency from West Coast, Central US and East Coast *(courtesy of Engineering Systems Incorporated, Box 939, Vienna, VA 22183)*.

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.

CENTRAL USA

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	*(12)*	8	*(13)*	*8	*13
10	*(12)*	8	12	*(8)*	*12
12	*(18)*	8	12	*(12)*	18
14	25	10	*18	16	23
16	27	*(10)*	17	16	*26
18	27	*(10)*	*(15)*	*(14)*	*27
20	22	*(15)*	*(18)*	*(10)*	*28
22	19	*(17)*	22	*(9)*	*27
24	*16	*(15)*	26	8	*22
2	*14	*(10)*	*(21)*	8	*19
4	*13	*(9)*	17	8	*16
6	*(12)*	*(8)*	*(15)*	8	*14

WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	*(9)*	10	*13	*(8)*	*12
12	*(9)*	10	13	*(8)*	*(12)*
14	*(14)*	10	12	*(11)*	23
16	*(19)*	10	*17	*(14)*	26
18	21	*(10)*	*(15)*	*(11)*	27
20	22	15	*(17)*	*(9)*	28
22	*(19)*	21	22	*(8)*	28
24	*(16)*	22	25	*(8)*	*25
2	14	19	25	8	*19
4	12	13	20	8	*16
6	*(11)*	*(12)*	17	9	*15
8	*(10)*	*11	*(15)*	*(8)*	*13

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	*(12)*	*(8)*	*(13)*	*8	*13
9	*(11)*	8	12	*(8)*	*12
11	23	8	12	*(12)*	17
13	27	8	*22	16	22
15	28	*(8)*	*(19)*	17	*25
17	*28	*(8)*	*(16)*	15	*27
19	*25	*(8)*	*(14)*	*(12)*	*28
21	20	*(15)*	*(21)*	*(9)*	*28
23	*16	*(15)*	*(24)*	9	*23
1	*14	*(10)*	*(17)*	8	*20
3	*13	*(9)*	*(15)*	8	*17
5	*12	*(8)*	*(14)*	8	*15

The DX Bulletin again changes hands. The new owner and publisher is Bob Nadolny, WB2YQH. Bob also publishes *59(9)* Report. Paul Smith, AE4AP, has a new job and was unable to continue this weekly DX newsletter.

QSL Addresses

A41LZ	—Murtadha Ahmed Sultan, P.O. Box 2837, Ruwi, Muscat 112, OMAN
EY8CQ	—Alex Rubtsov, P.O. Box 32, Moscow, 117449 RUSSIA
XQ0YAF	—P.O. Box 4, Easter Island, CHILE
Z21JE	—Molly, P.O. Box CH460, Chisipite, ZIMBABWE
ZD7HI	—Chris, P.O. Box 140 ST HELENA ISLAND

Many thanks to the following contributors: G3ZAY, N4SU, AB5QH, K6CJ, W7CF, Southern California DX Club (WA7BNM), Northern Arizona DX Association (W7YS), American Radio Relay League (K5FUV), *Island News* (W5IJU), *425 DX News* (I1JQJ), The *Ohio/Penn DX Bulletin* (KB8NW), *The Low Band Monitor* (K0CS), *DX News Sheet* (G4BUE), *QRZ DX* (N4AA), *Inside DX* (N2AU), and *The DX Bulletin* (AE4AP). Our retirement days have been fine business! Although much traveling has occurred recently a bit more time should be at home and spent preparing the monthly column. The *CQ* Worldwide DX Contest in November produced much activity. This was a good contest to pick up new ones for those of you new to the DX game. There was even a short opening on 10 Meters. No new ones for me, except for one on 80 Meters. Have a good year in 1997.

Very 73 es good DX to you, de John N6JM. **WR**

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Eric, KA6IHT, Mgr.
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Mark, KE6OFP, Mgr.
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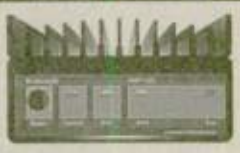

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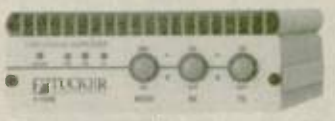

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3DAØCQ/DX	WJ2O	EA9IE	bureau
3V8BB	YT1AD	ED1BD	EA1BD
4F2IX	DU4IX	ED3DX	EA3AML
4F3CV	HB9CZX OC-042	ED6PZ	bureau
4F4IX	DU4IX	ED7SDX	EA7GA
4L1BW	N3CBW	ED9EA	EA7LQ dir. or bur.
4L1DX	OZ1HPS	EI7M	EI5HB
4M2BYT	YV2BYT	EK4GK	GW3CDP
4X/OK1JR	OK1AJN	EO6F	OE5EIN
4X1VF	K1FJ	ER3MM	I8YGZ
5H3CA	KBOOZG	ES1J	ES1WW
5K6W	HK6KKK	EX8F	DL8FCU
5NØMVE	ON7LX	FG5FG	F6FNU
5NØT	F2YT	FG5GA	FG5XZ
5N9N	N2AU direct	FG5HR	F6BUM
5R8EE	FR5EL CBA	FK5DX	WB2RAJ direct
5X1P	G3MRC	FM5BH	F6HEQ
5X1T	ON5NT	FM5DN	KU9C
5X4F	K3SW	FR5HR	F5RRH
7Z1IS	SMØOFG	GB2AA	G3GAF
7Z5OO	W1AF	GB8ØOSA	GØREP bureau
9A4D	9A1HCD	GDØPLT	WA4JTK
9A7A	9A1HDE	GD4UOL	G4UOL
9A8000S	9A1BOP bureau	GIØSAP	GIØKOW
9G1BJ	G4XTA	GMØECO	GWØECO
9HOA	LA2TO	GM6V	GM4CXM
9J2BO	W6ORD	GM6X	GM4FDM
9J2CE	IN3VZE	GM6Z	W5ASP
9J2FR	I2ZZU	GU3HFN	ZL2TT
9J2SZ	SP8DIP	HBØ/DL6FDB	JH1BSE
9K2GS	WB6JMS	HBØ/HB9AON	DJ2YE
9K2HN	bureau or CBA	HBØ/HB9LEY	JH1BSE
9K2RA	Bureau	HCØE	HC1HT
9L1MA	WØHSC	HC5K	KT1N
9M8R	W7EJ	HC6CR	NE8Z
9N1OSN	WAØSN	HC8A	WV7Y
9N1SM	KØAHI	HC8N	AA5BT
9V1ZB	JL3WSL	HD2RG	HC2RG
9X4WW	ON5NT	HG1H	HA1KSA
9Y4 W	W3EVW	HG3O	HA3UU
A35DM	ON4QM	HG5C	HA5KKC
AP2N	DF8WS bureau	HG6Y	HA6OI
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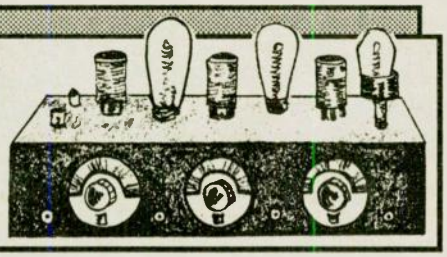
BA4TB	9A2AJ	HS1AZ	K6VNX
BV4FH	KA6SPQ	HS5OA	OH2KI
BY1QH/	W5ZPA	HV4NAC	IKØFVC
BY4AA	CBA	IG9/I4UFH	IV3TAN
C31LD	VE3HO	IG9/IK2QEI	IV3TAN
C31LJ	VE3GEJ	IG9/IT9EQO	IV3TAN
C4ØM	5B4AFM	IG9/IT9GEZ	IV3TAN
C6AHU	WJ8C	IG9/IT9GSF	IV3TAN
C91CO	W4DR	IG9/IV3TAN	IV3TAN
CE3F	LU8DPM	IIOG	IKØYUT
CG1CZ	VE1CZ	II2M	IK2SGC bureau
CG1ZZ	VE3BMV	II4M	I4MES
CI3AT	VE3AT	II9R	IT9HLR
CI3EJ	VE3EJ	IJ7/IK7IMO	IK7IMO bureau
CI3IY/7	VE3IY	IJ7/IK7XIV	IK7IMO bureau
CI3LPE	VE3LPE	IL3DX	IK3VIA
CJ3NR	VA3NR	IO4A	IK4PVR
CK7U	VE7UBC	IO4LEC	I4LEC
CQ1A	CT1EEB	IO5A	ISØYY
CQ9M	G3PFS	IQ1A	I1JQJ bureau
CT3BX	HB9CRV	IQ2A	I2UIY
CT3EE	DK7YY	IQ4A	I4LCK
CT3FN	HB9CRV	IQ4T	IK4HVR
CT8T	CT1DVV	IQ5Q	I5YXG
CYØ/VK1ZZ	WA4DAN CBA	IQ8X	IK8FPI
CYØXX	WA4DAN CBA	IRØC	IKØAZG
D25L	PA3DMH	IR1A	IK1GPG bureau
DU3/AH8F	G4ZVJ	IR2W	I2EOW (IK2PZC OP.)
DX1CW/XW	JA3GN	IR4T	IK4IEE (I4JMY OP.)
EA4URE	bureau	IR5T	IK5ORP
EA8AH	OH1RY	IR8A	IKØYYY
IR9B	IT9STX	LY6K	LY3BS
IU2D	IK2ILH	LY6M	LY1DS
U3V	IK3VIA	LZ5W	LZ1YE
IU4U	I4ALM	M6G	G1AHM
IIY4M	IK4OLP	M6N	G3WOI
J28JY	F6BFH	M6T	G3XTT
J28MD	DL2RDP	MI6I	GIØUJG
J3/WJ2O	WJ2O	NP4Z	WC4E
J38AA	KQ1F	OHØMM	OH2MM
J3A	WA8LOW	OIØRJ	OHØRJ
J52IM	KB9XN	OI2C	bureau
J8OF	DL3MIB	OI2E	OH2IW
JH5ZJS	JA5BJC	OI6YF	OH6YF
JW5VK	LA5VK	OI7T	OH6LNI
JY5SK	WB9YXY	OI9AR	OH9AR
JY8/DL5MBY	DL5MBY	OK5W	OK1AEZ
JY8XY	WB9YXY	OL5Y	OK1DWX
JY9QJ	DL5MBY	OM3A	OM3KAG
KC6DO	JE8XRF	OM5M	OM3KFF
KC6GB	LX2AA	OM8A	OM3RM
KHØ/JA1HGY	JA1HGY	OT6A	ON7LR
KHØ/JA4DND	JA4DND	OT6T	ON4UN
KHØ/JR1MLU	JR1MLU	P4ØDX	AK4I
KHØ/KE6DI	JA1BRK	P4ØE	CT1AHU
KH2D	K8NA	P4ØW	N2MM
KH6/K6GSS	K6GSS	P49I	K4PI
KH8/N5OLS	AA5BL	PI4COM	PA3CAL
KH8AL	CBA	PJ8CW	K1BXE
L44D	LU4DFH	PJ9B	N3ED
L75AA	LU4AA	PJ9E	K2SB
LP3C	LU3CF via bureau	PJ9T	AB4JI
LP7N	LU2NI	PQ5W	PP5WG
LR3Y	LU1YY	PR4Y	PY4DY
LTØA	LU1ARL	R3Ø	IK3ØRD
LT5E	LU1EYW	RF1CB	RA1CP
LT5H	LU1HHO	RF1F	RZ1AYX
LY5W	LY1DR	RQ4L	UA4LCQ
RU1A	KC1WY	VA3MM	VE3MM
RU3A	RZ3AZO	VA3SK	VE3SK
RWØA	RKØAXX	VA6JI	VE6JI
RW2F	DK4VW	VA6JY	VE6JY
RW9OWD	UA9OIL	VP2AHW	KQ4GC
RW9USA	UA9AB	VP9ID	K1EFI
RZ3Q	RK3QWA	VR2KF	JH1OGX
SO1M	EA7EL	VP5T	N2VW
S5OC	S55OO	VR6TY	LA7JO
SN2B	SP2FAX	VS6WO	K9EC
SN6F	SP6IXF	VS96BG	VS6BG
SV1AFA	SV1CIB	WHØ/WH2Q	JI1DLZ
T3ØEG	KH6JEB	XK7CFD	VE7CFD
T82AA	LX2AA	XK7NKI	VE7NKI
T9DX	T93M	XL4VV	VE4W
TA4ZM	DK5WL	XM5RA	VE5RA
TIØC	TI4CF	XO7A	VE7SV
TMØZK	F5OZK	XR1X	CE1IDM
TM1C	F2VX	XR8S	CE8SFG
TM2DX	F6IFR	XU1U	JR1CSA
TM2T	F6KDF	XX9KC	JH2MRA
TM2V	F6KRC	XY1HT	LA7JO CBA
TM2WW	F5RZJ	XY1U/VMY	JA8RUZ CBA
TM2X	F2VX bureau	YB1AQS	DK7YY bureau
TM2Y	F6BEE	YB3OSE	W7TSQ
U5WF	SP5IUL	YB9BV	AA7VB
UAØJQ	UAØJB	YL8M	YL2KL
UAØLCZ	CBA	YM2ZM	OK1DTP
UR4EYT	YR2R	YO2DFA	
UT0D	RB5DX	YTØT	YU1FJK
UT7W	WA3HUP	YT7A	YU7GMN
V26A	N3BNA	YV5R	YV5EFP
V26B	WT3Q	YW5R	YV5LOL
V47K/P	K2SB	Z3OM	Z37GBC
V59T	N2AU	ZC4EE	G4SSH
VA2UA	VE2UA	ZD8DEZ	GØDEZ
VA3MG	VE3MG	ZD8Z	VE3HO

QSL Addresses

3DAØNX	JM1CAX bureau to ZS6CAX direct: Koji Tahara, Embassy of Japan, P. O. Box 11434 , Hatfield, Pretoria 0083, South Africa.
3E1DX	KFØUI from (Contadora Island, NA-072)
4K7ØDWZ	Box 116, Ktoprak, 81031 Azerbaijan
4M5X	QSL to the YV-Bureau. (YV5ARV)
4U1ITU	Bureau HB9 or direct: P.O.Box 6, CH 1211 Geneva 20, Switzerland or J.Meezen, Narcisstraat 3, 9675 Ma Winschoten, Netherlands.
4V2A	9A2AJ (op.hh2aw)
4X6TT	Amir Bazak, P.O.Box 1446, Ramat Hasharon 47226, Israel
4ZØZ	4X6ZK
4Z4DX	Dov Gavish, 27 Hamitnahalim; Ramat Hasharon 47203, Israel
4Z4T	4Z4UT
5C8MC	QSL for 5C8MC, active during the CQWW SSB Contest, will be automatically sent to all the calls logged. (CN8GI)
5Z4FM	Jim; Box 34168; Nairobi; Kenya
5Z4RL	P.O.Box 76315, Nairobi, Kenya
6W6JX	CBA or F6FNU
6Y5XX	JE3MAS bureau or direct (6Y6A new call): Masiii H. Kozu,Box 8202 C.S.O., Kingston, Jamaica. E-Mail: masiii@InfoChan.COM
8P9Z	K4BAI dir o bureau
8Q7AI	DL3SAS , P.O.Box 750348, D-70603 Stuttgart, Germany
8R1K	OH6DO (New call: AB6NJ) Marko Myllymaki, 1426 Scranton Rd., 1058, Irving, TX 75061, USA
9A1A	9A1A Team, P.O.Box 108, Zagreb 10001, Croatia
9M2TO	JAØDMV bureau or dir: Terutsugu Izumo, Bukit Dumbar Apt 9-4, 97 Jalan Thomas 11700, Gelugor Penang, Malasia
9V1WW	James Basil Rodrigo, Block 13 Ghim Moh Rd 19-37, Singapore 1027
9Y4H	K6NA All QSOs will be automatically confirmed
9Y4NZ	Chris, P.O. Box 168, San Fernando
A35SQ	W7TSQ dir to bureau IOTA OC-169
A41KT	Hamed Ali Segabi, CPO Box 116, Seeb 11, OMAN
A41LD	Waleed Qassim Al Zidjali, Box 81, Muscat TSO/112 113
A41LZ	Tada, P.O. Box 2837; RUWI; OMAN
A45ZN	Anthony George Frank Selmes, Box 981, Muscat 113
A71CW	Chris Dabrowski; Box 22101; Doha; QATAR or SP5EXA
AH7G	N2AU AH7G@gte.net / wr6r@ccnet.com
AH8A	William E. Faulkner, P.O.Box 2567, Pago Pago, 96799-2567, American Samoa
AL3/N7DF	N7DF
AL7MX	Kenin G Foster, Box 877326, Wasilla, AK 99687, USA
AY7D	LU7DW Claudio Fernandez, C.C. 7, Tapiales 1770, B.Aires, Agentina
BY4BZB	ARS of Shanghai, Zhabei District Chil Sci and Tech Center,P.O. Box 083-105, Shanghai
BY4RSA	ARS of Jiangau Radio Sports Assn, Box 538, Nanjing
BY4SZ	ARS of Suzbou RSA, Box 51, Suzhou, CHINA
CI2QK	VE2QK e-Mail: dubej@ netrover.com
CN8NK	Mhamed, P.O. Box 6343, Rabat, Marroco

Old-time Radio



People Calling People

Buddy Robins, W2KN

In last November's issue, ***Worldradio*** *was pleased to present an excerpt from author Buddy Robins, W2KN's unpublished manuscript,* People Calling People. *Here is another glimpse of the world of Amateur Radio from a few years back.*

A friend needs help...

It was a warm Saturday afternoon in July during the summer of 1962, and I was sitting in my office trying to catch up on some paperwork when the telephone rang. Jarred out of my concentration, I picked it up and automatically said "May Knitting." "Buddy, this is Al, K2IHX, from Spring Valley." His usually calm voice (Al was a retired school teacher) was shaking with excitement. "I have an emergency message for you from your friend Rolf, PY2QT, in São Paulo. It was relayed to me by a ham in Atlanta, I'll read it to you."

I picked up a pad and pencil. "Go ahead." With an urgent tone in his voice, he read the communication from Brazil. A dear friend of my ham pal Rolf, Dr. Carlos Blum, was dying of extremely low blood pressure brought on by a stroke he had suffered a few days before. The drug which the physicians had been using to keep the pressure up (something called Aramine) had run out, and incredibly had proven to be unobtainable either in Brazil or any neighboring country. Could I help? the message pleaded. Surely there must be a supply of Aramine somewhere in New York City.

Rolf Simon and I had met on the air several years before, and had developed a close relationship by maintaining regular schedules with each other. He had been a visitor in our home in Riverdale, New York, and had met many of our family friends. Coincidentally, we were due to have a contact that very evening. The schedule had been arranged weeks before, because many of the friends he had met were going to be at our home that evening, and I thought it would be fun to have Rolf renew acquaintance with them via Amateur Radio.

How to find the medicine?

I hurriedly thanked Al for the relay and hung up. Where to start? Drug stores! I called our friendly neighborhood druggist. "Aramine? Never heard of it." I tried unfriendly drug stores. They never heard of it, either. "Try a doctor," one of them said. I tried to reach several, and, well . . . you try it sometime on a Saturday afternoon in July.

Drug stores, doctors and hospitals. No luck. I finally used my head, and found the weekend telephone number of the pharmaceutical firm that Rolf's message had mentioned, Merck, Sharpe and Dohm. Eureka! A Manhattan firm called Caligor stocked Aramine. I called them, and they were more than cooperative. So, too, was Brazil's Varig Airlines, which volunteered to take the package of the precious drug, without paperwork and without charge, Idlewild to São Paulo, nonstop.

I spoke to Rolf that evening on 20 Meters, as scheduled, and alerted him to all the details. Cutting off his profuse thanks, I said "Okay, Rolf. Meet me tomorrow night, same time and frequency. Get going."

Success!

Sunday night, there he was with the news: "The Aramine! It arrived in time. They gave it to him, and it worked! His pressure went up in minutes. He is going to make it!"

We were both numb with relief. When the numbness subsided, we both started to express the same thought at the same time: What a great ham radio story, especially at that moment in time, when relations between the two countries were strained.

"I'll give it to the press here," Rolf said.

"I'll think of something to do here, too," I said, and we signed off.

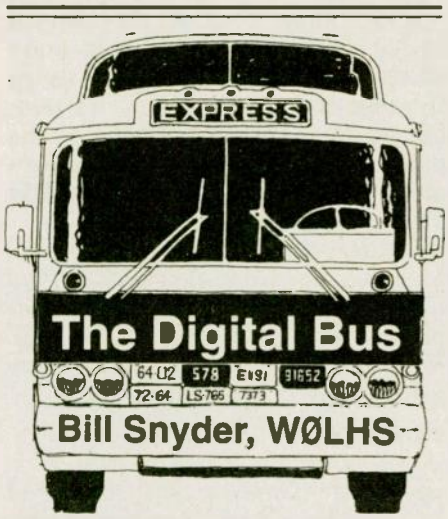
Telling the rest of the world

I telephoned a friend who worked for the publishing house McGraw Hill. "Abbey," I said, "what do I do with a story like this" "Only one way to go," was the reply. "Phone it in to the Associated Press." I dialed their number, and a bored voice answered. I started telling the story and the bored voice began to ask questions. I answered them, and the boredom diminished a little, but just a little. "Remember now," I said before hanging up, "the slant is Amateur Radio and Brazilian-US relations."

"Sure," the bored voice said, "sure."

Well, I thought, I tried. That shows just how little I know about reading 'bored' voices! For the next several days, Rolf and I both were interviewed, photographed, written about, overwhelmed, and inevitably ribbed unmercifully by our ham buddies for "grandstanding."

I was enough of a "ham" in every meaning of that term to endure it all, despite the ribbing. But when my oldest son was asked in school if his was the dad who "saved the man in Brazil," it was a wonderful moment indeed. **WR**



Reminiscing about the "good old days" is one of the fun parts of old age, and writing out the remembrances doubles the fun. That's probably why I seem to be doing more reminiscing in this column than I did in the early years of writing it. In addition to this column, I edit and publish a newsletter for our high school alumni association, I write a column for our local ham club newsletter, and when recently a group of retirees from broadcasting at WDAY radio and television formed an "old timers club," I wound up making a newsletter for that herd of people who like to reminisce, too.

It seems every time I reminisce in this column, I get mail with questions and/or stories about similar experiences which delight my 80-year-old heart. I really enjoy getting that kind of mail.

Here's a question from Gene Wiggins, W9CWG (also ex-W8YEG) who lives in Valparaiso, Indiana.

Going back a few months re: the Gatti-Hallicrafters Expedition; I worked VQ4ERR a couple times on that trip (1948) if my memory serves me correctly. At the time I was under the impression that ERR was part of the G-H operation. It was during good sunspot activity and 10 Meters was easy to operate into Africa, and I had the latest state-of-the-art gear to do it. To wit: a one-tube 6K8 converter [no RF stage to give better noise figure, no less] ahead of a surplus BC-348 receiver. For a transmitter I first used a homemade rig made of items from a SCR-522 surplus unit. It ended in an 832A on both 6 and 10 Meters with 15 watts input, and later on I used a "high power" rig with a pair of 24-Gs at 175 watts. Antenna was a 132 foot center fed with open line. Those were good days in hamming, especially the feeling of freedom after service in the army during WWII! Was VQ4ERR part of your operation?

No Gene, VQ4ERR, "Robbie" Robson, was not a member of the G-H expedition; he ran a drug store (chemist shop) in Nairobi, Kenya. Bob Leo, W7LR, my ham companion on the expedition, stayed with Robbie for a short while after the G-H Expedition finished and before Bob caught a steam ship to Saudi Arabia where he joined his folks, who were living there.

Code Name Down Fall

I just finished reading a fascinating book that every veteran of World War II operations in the Pacific and Southwest Pacific theaters should read. The title of the book is *Code Word Down Fall*. The authors are Thomas B. Allen and Norman Polmar, and the publisher is Simon and Shuster. My 41-year-old son, Tom, a CPA in Illinois, sent me the book after he finished reading it. "I think you'll find this book interesting, Dad," my son said on the phone, "because you were there. I'll mail you the book."

When it arrived I could hardly put it down, because it was the best war-time reminiscing trigger anywhere. During WWII, I spent just short of three years in the Pacific making the trip from Australia to Japan via the way of New Guinea, Dutch New Guinea, and the Philippines. And when the war ended, we were getting ready for the invasion of Japan and that's what the book is all about: the strategy, planning, and logistics of the invasion of the Japanese homeland islands.

When I was in high school I enlisted for four years in the US Naval Reserve and became a radioman third class. In college I entered the ROTC program and was commissioned a second lieutenant in the infantry in June of 1941.

My college professor of military science and tactics, Army Col. John Mendenhall, used to preach to our class, "The only way to win a war is to carry the battle to the enemy's homeland, and then destroy his ability to make war on you." And that's the philosophy outlined in the *Code Name Down Fall* treatise. General MacArthur and Admiral Nimitz, the two theater of war commanders, were planning to carry out the above quote from Col. Mendenhall by crushing the enemy in what could have been the bloodiest campaign of the whole war.

Most of the book is a brief history of the many battles in the Pacific and the European continent that led up to the day that Japan offered to sign an unconditional surrender to the Allies. If you follow this column, you might remember that I have written a number of times about my participation in the 58th Signal Battalion which supported the army's I Corp in New Guinea and the Philippines during the great war. At first I was the radio officer, then later the battalion operation's officer, and finally the company commander of the headquarters company.

The old saying that "a commanding general is not a commanding general until the Signal Corps puts a telephone in his hand" is true. Communications in the military services is vital, and the 58th had telephone capability that would service a fair-sized town. I've been in local telephone exchanges that weren't as large as the one we could put up in a matter of hours. We operated a message center that handled thousands of words a day to many superior and subordinate units via radio or teletype, and we had a loft of carrier pigeons that were left over from World War I. We hauled the birds around, but we never did use them but once that I recall.

So when I read in the new book the staggering logistics of what the

US forces were getting ready to throw at the enemy, and also how the enemy was preparing to halt our attack on his mainland, I shuddered. I shuddered almost as much as I did that day in August, 1945, when I went to the initial briefing for the invasion operation and heard General Swift, the I Corp commander, outline our invasion of Kyushu, the southernmost island in the Japanese chain. The X day for the invasion was to be November 1, 1945, with the main island of Honshu scheduled for March the following year. When we were shown on the map where were going to land, there was a gasp from the assembled officers. One officer turned to me and said, "I hope everyone has their insurance paid up!"

The G-2 (intelligence officer) passed out terrain handbooks that were loaded with information about the invasion. I flipped through the thick booklet and noted that there were commercial phone lines that we were probably going to have to rehabilitate for our use. We had done that in the Philippines. I came home to camp from that briefing still shaking my head; I was impressed with the upcoming invasion, it was going to be a bloody one.

That afternoon, our company loaded all the troops not on duty onto trucks, and drove to an outdoor theater some miles away to see a USO show, Kay Kayser and his Kollege of Musical Knowledge. It was a lot of fun, and the big band sound echoed across the Luzon rice paddies.

That evening at our battalion camp alongside the Agno river, Tech Sergeant Deutch, chief of our radio intercept section, said to me, "I'm going to continue to monitor KUN, the State Department station in San Francisco. They told us to stand watch as they were going to have an important bulletin coming up."

At this point in time two atomic bombs had been exploded over Japan, and more were planned to be dropped, so the news could be something of importance. By the way, KUN transmitted the news at 35 wpm CW and our gang copied it on typewriters. (Copying that station on a "mill" for practice, helped me get my 35 wpm certificate from the ARRL the first try after the war).

I was off duty at that point, and a number of us were heading over to the battalion movie theater. "If you hear any good news bring it over to the theater," I said. Deutch agreed and went back to the radio tent.

In the middle of the first movie reel, the sergeant came over with a slip of paper and handed it to me. In the light of my Zippo lighter I read the bulletin: "Japan offers unconditional surrender." My heart jumped a beat; the war would end before the dreaded invasion.

I had the projectionist stop the movie, and over the sound system I read the bulletin to the battalion troops. They exploded with cheers, shouts and genuine joy. It was a scene I can't forget, but I can't remember if we finished the movie or not. Most everyone was too excited to watch a flick after that news.

And so today I can't remember much about that meeting with the invasion plans. When the Japanese offered to surrender all thoughts of invasion were erased from my memory. For the 51 years since that day, whenever I discussed the pending invasion of Japan with friends, I wasn't sure if our plans were to land on Honshu, the main island, or Kyushu, or wherever. Now, with *Code Name Down Fall* to bolster my recollection, I can write about it. I guess with the surrender notice I was too happy; I just erased all the problems I had been worrying about that day.

So, as one whose life was probably saved by President Truman's decision to drop the atomic bomb, *Code Name Down Fall* is a great trigger for my memories of World War II.

When we landed at Wakayama on the island of Honshu to occupy the country a few weeks later, I could see why the Japanese citizens were probably happy their leaders had thrown in the towel. The cities were flattened, and I can't imagine how terrible living must have been in those days of war.

My "bean counter" son who sent me the book has been to Japan three times on business. I'm extremely glad I didn't have to go there on the lethal business of war, but happy we were able to go on the business of peace. I don't have to construct my transmitters like I did before the war!

EAVESDROPPING

I THOUGHT THE SUN SPOTS WERE COMING BACK, BUT THEY AIN'T SHOWING ANY GOOD DX THESE DAYS. . . . UNDERSTAND THEY ARE STILL LOOKING FOR HI-JACKER D.B. COOPER AFTER 25 YEARS OF LOOKING. . .

To write me: Bill Snyder, 1514 12TH ST S, FARGO ND 58103-4134. Packet:

WØLHS@WØLHS.#SEND.ND.USA.NOAM. 73 DIT DIT. **WR**

• • •

Worldradio QSO Party

Worldradio will be holding a QSO Party 7-8 June 1997. Come and be a part of the fun! Take time out to make contact with hams from around the world.

FM & REPEATERS REPEATERS REPEATERS REPEATERS

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WA6ITF
28197 Robin Ave. • Saugus, CA • 91350

(Internet)billwa6itf@aol.com
(AOL)BILLWA6ITF
(Netcom) newsline@ix.netcom.com
(24-hr voice/fax) 805/296-7180

MIR vs US FM

This month we will be devoting a lot of space to "space." At least to areas of ham radio space communications that directly affect FM operators on the ground. The first of these is an International Amateur Radio Union (IARU) decision to move the operating frequencies of the ham station on board the Russian MIR space station and other planned ham radio manned space operations to a part of 2 Meters where repeaters abound in ITU Region 2. This is causing some dissension between hams involved in space communications and others who use terrestrial modes.

At an IARU Region 1 meeting held last fall, a decision was made to move MIR and all European sponsored manned ham in space operations to a spacecraft to earth downlink on 145.200 MHz with terrestrial stations uplinking on 145.800. Within days of the close of the meeting the Russians ordered the hams on board MIR to switch over to the new channels.

While this change has solved problems for Region 1 users where the 2 Meter band only runs from 144 to 146 MHz, it has also angered Region 2 hams involved in the emerging Amateur Packet Reporting System technology. APRS say that they are troubled by having the MIR operations only a few kHz away. At the same time, satellite users say that the APRS signals are interfering with their ability to contact the MIR. Both say that they have the right to be there. Each wants the other to go away.

The frequency choice has also made communications with the MIR very difficult across North America, because 145.19 and 145.21 are repeater output channels in most parts of the country. The weak signal from space is no match for terrestrial transmitters only 10 kHz away running nominal +/- 5 kHz deviation. It only takes a bit of math to realize that in an average ham radio grade receiver that there is a lot of FM energy in the spectrum. It's even more graphic when a repeater keys up at the time a satellite enthusiast is trying to hear the MIR. Needless to say that these adjacent channel FM operations are making life miserable for satellite operators.

Even more agonizing for space communications enthusiasts is that 145.2 MHz is a repeater output channel throughout Southern California. While the MIR signal does not bother the repeaters, few can hear its call through the hundred-watt mountain top repeaters that dot the area's landscape.

Many US hams are now openly saying that they want the MIR to go elsewhere, but it not likely to happen. Rather, appears as if the new frequencies have been cast in concrete by the IARU, with the MIR and the most future manned ham radio space station operations are on those new frequencies to stay.

Amateur Radio to have permanent space role

Enough on the problems, here comes the kind of news that will make any ham who ever had dreams of flying in space light up with joy. This is because what the ARRL and AMSAT call "a foundation" has been laid to give Amateur Radio a permanent presence in space.

On Wednesday, 27 November, just a day before Thanksgiving — the ARRL and AMSAT jointly announced the results of a meeting in Houston, Texas earlier in the month. Amateur Radio delegates from eight countries — Russia, Japan, Germany, Great Britain, Italy, Canada, France and the US — had gathered at the NASA Johnson Space Center to map plans to include a permanent ham radio station aboard the International Space Station, to be tended by station crew members.

From the United States, members of the SAREX Working Group, officials from NASA, US representatives of the Russian MIR Amateur Radio experiment and members of the Johnson Space Center Amateur Radio Club attended the meetings 4 and 5 November, chaired by Roy Neal, K6DUE. The delegates jointly developed a draft "memorandum of understanding" to promote the development of Amateur Radio on the International Space Station — to be known appropriately as "Amateur Radio International Space Station" or simply as "ARISS."

The ARISS group will provide for the planning, coordination and performance of Amateur Radio projects on the space station, similar to the way the SAREX Working Group currently coordinates Amateur Radio activities on many space shuttle missions. AMSAT and IARU organizations in each of the eight countries are to review and consider approving the memorandum of understanding. In the US, this includes AMSAT-NA and the ARRL.

While nothing yet has been decided, previous manned ham radio space operations have preferred the FM mode. This is because of its ease of operation for the Astronaut teams; the capture effect to permit minimal QRM by locking onto the strongest signal, and the fact that more hams operate FM than any other mode in use today. With this

in mind, there is no reason to think that FM will not once again be the preferred mode when hams go "in orbit" on board the International Space Station. This means that you will be able to live with them, in space, vicariously, through ham radio.

Why there are no 1.25 Meter ham-sats

The foregoing is a good way to tackling a question that I often find being asked. Simply: ". . . why are there no 220 MHz ham satellites? The simple answer is that it is illegal.

As recently explained on the AMSAT bulletin board by Dr. Tom Clark, W3IWI, amateur satellite operations are not a part of the Amateur Radio Service. Such operations are in the Amateur Satellite Service. By way of explanation, Dr. Clark cites the following example: "If I work my neighbor directly, we are operating in the Amateur Radio Service, but in the eyes of international telecommunication law, if I work him via a satellite, we are operating in the different Amateur Satellite Service.

"The international Amateur Radio Service and Amateur Satellite Service frequency allocations are different. The International Telecommunications Union has established a set of worldwide amateur frequencies such as 28.0-29.7 or 144-146 MHz. In some countries, the local governments have expanded these allocations. In Region 2 (North and South America), most of us have a 4 MHz-wide 2M band from 144-148 MHz. But in Europe and Japan, they have only the international 2 MHz wide allocation from 144-146 MHz.

"In general, the international Amateur Satellite Service allocations track the worldwide Amateur Radio Service allocations. Amateur Satellite Service operation is permitted only in the 144-146 and 435-438 MHz bands, for example. Some Amateur Satellite Service allocations have additional restrictions — like the 1270 MHz Amateur Satellite Service allocation is designated as only being for earth-to-space (uplink) use.

"Now to the 220 (actually 222-225 in the USA) band: The 1.25 Meter band is not available to amateurs worldwide. In Europe, they've never heard of the band at all! It's really a North American anomaly. Since it is not a worldwide Amateur Radio Service frequency allocation, it does not appear in the international allocations as an Amateur Satellite Service frequency. Hence the quickie answer — it's not legal!"

Repeaters on the Internet

If you "surf the web" then you are well aware that more and more of the nation's radio and even some television stations are taking to the Internet to expand their audience. For them, an increased audience translates into increased ad revenue, which to all intent and purposes, is the reason that broadcasters broadcast. Now comes word that some repeaters are doing the same thing. That is, expanding their coverage to worldwide by linking over the world wide web. I learned about it in the following message from Jack R. Leverich, KC9KY:

"If you have time you might want to check out the communications with remote bases and repeaters on the Internet. The main portion of this mode is handled through a program called I-Phone by Vocaltec. The secondary program called Rptrlink validates the caller

through a call book server to allow access to the ham station. The program also provides remote packet radio, touch-tone control and wave file IDs."

Unfortunately, I am still living with a rather antique and miserably slow 486-33 Zenith PC that has a lousy audio card and an almost loaded 200 MB hard drive. I also will be staying with it for some time to come since I am not in a position to upgrade to a more costly system. So I have not yet had the opportunity to listen in. If you are one who has tried it, why not sit down and write it up, so that this new technology can be shared?

6 Meter repeaters coming to the UK

Get ready for 50 MHz transatlantic repeater contacts — six-meter repeaters are coming to hams in the United Kingdom.

Region One of the IARU has accepted a proposal from the Radio Society of Great Britain which will permit the establishment of FM relay devices on 6 Meters in the United Kingdom. Under the plan, there will be fifteen 10 kHz-spaced channels with repeater inputs from 51.210 to 51.350 MHz. All outputs will be 500 kHz lower. The RSGB Repeater Management Group is in the process of setting up some basic ground rules for operation of 6-meter repeaters. They have already received a fairly large number of 50 MHz repeater proposals, but at the time this is being written, no frequency assignments have been made.

The best repeater in town...

If you are planning a vacation trip to the Great Smoky Mountains National Park, KE4GDZ says to try the WA4KJH repeater on 146.85, the WB4IOB system on 146.73, and the WA4TEM machine on 145.33 MHz. He says that WA4TEM features an open autopatch and that visitors are always welcome.

Historic update on an old transverter

In last October's column we made mention of a piece of vintage ham radio gear known as the P&H 6 Meter SSB Transverter. Little did I know that I would soon hear from the designer of that radio. He is a man who is still serving the needs of radio amateurs, albeit in a far different way. He is Lew Gordon, K4VX, and these days he devotes a lot of time to the politics of ham radio in service as the ARRL's Midwest Division Director. But years ago, Lew was a radio designer, and one of his legacies is the P&H Transverters:

"Hi Bill,

"After reading your column in ***Worldradio*** (10/96), I couldn't resist responding to you. To fill you in on a little bit of historical trivia, it was I who designed and breadboarded the "Gray Box" P & H 6-meter transmitting converter while in summer school, 1961. I was a student at Purdue at the time, and had known the company president, Bob Walgreen, W9GDS, for the previous 5-6 years.

"I moonlighted at P & H for Bob to design and construct the breadboard version. He gave me the key to the place, and in the evenings when no one was around I would come in and work a few hours on the design. Being on the Korean GI Bill, with a wife and two kids, meant any extra cash I could get was welcome.

"What was really great was that I had unlimited use of all of the test gear, Tektronix scope, HP generators, spectrum analyzer, etc. as no one was there. P & H was a very small company and owned about one of each piece of test equipment. We had to share! I was often taken to task for not leaving the Tektronix 545 roll-around at the right bench!

"I also did the 2-150 converter which was based upon the same chassis construction. If memory serves me correctly, it was a 6U8 crystal oscillator and tripler, 6360 mixer, 6360 driver, and 5894 final. The late Bob Peck, W9MOW, was the production engineer who took my working breadboards and laid them out for final manufacturing. Bob was the 'P' of P & H. Bob Hoover was the 'H'.

"There are a few of both units still in service. I occasionally spot one at a flea-market.

"W9GDS now lives near Austin, Texas. He and I have weekly schedules on 40 Meter SSB. I'll be sure and read your comments in ***Worldradio*** to him next sked."

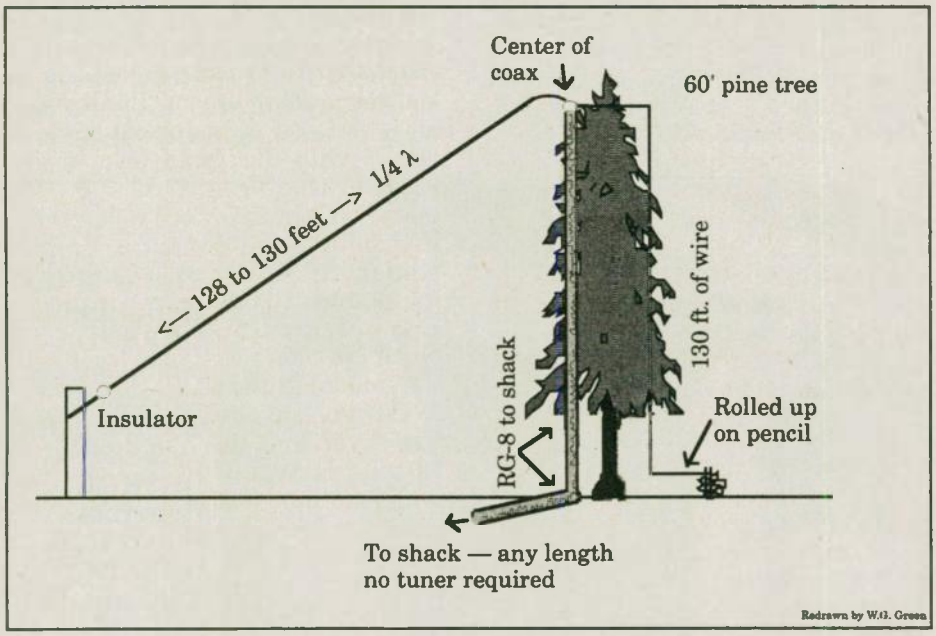
73,

Lew Gordon, K4VX

Director, ARRL Midwest Division"

(Note: E-Mail only up to 50 kilobytes may also be sent to wa6itf@juno.com) **WR**

Wires & Pliers



The W7YS Sloper for 160M

W. (Bill) Schuchman, W7YS

A lot of slopers have been put up by hams with varying results — especially the kind that use the tower for a ground. Not having a tower, I use the next best thing — which is a tall Ponderosa pine.

First, I cut two lengths of wire 128 to 130 feet, depending on where you prefer to operate, then I climb the tree carrying the wires and the end of a piece of RG-8. (It is recommended to have some kind of safety harness on while doing this). At the top of the tree, fasten the coax, solder one wire to the center conductor (carefully, as not to start a fire) and the other wire to the braid. Throw the wire attached to the center conductor in the direction desired (east, west, etc.), and have a helper drag it out to a convenient tie-off spot (i.e., fence post). Now drop the other wire straight down the tree and come down safely. Pick up the wire and stretch it out in any convenient direction (mine runs along a fence, and then along the ground alongside the house.

Get out your MFJ Antenna Analyzer and check for SWR. It will be high. Take the end of the wire and wrap about 10 feet of it around a pencil or wood dowel. Check the SWR again. Keep winding up the wire until you get the SWR down to the lowest value and then stick the dowel in the ground. My SWR came down to 1:1 with about 28 feet of wire wound on the stick.

The nice thing about the antenna is that you can use it without going through an antenna tuner, and it works great. **WR**

Watts it all about?

Send your news and information to us at ***Worldradio.*** We'll help *you* inform the world!

YLs on the Air

Kay Eyman, WAØWOF
Rte. 2, Box 366 • Garnett, KS 66032
E-mail: waØwof@juno.com

Contest Info

All licensed amateurs are invited to participate in YLRL's YL-OM Contest. YLs count only contacts with OMs, and OMs count only contacts with YLs. The SSB portion will run from 1400 UTC, 14 February, until 0200 UTC, 16 February, 1997, and the CW portion will run from 1400 UTC, 21 February, until 0200 UTC, 23 February, 1997.

The phone and CW portions will be scored as separate contests. Separate logs must be submitted to YLRL Vice-President Nancy Hall, KC4IYD, P. O. Box 775, N. Olmsted, OH 44070-0775, and must be postmarked not later than 30 days after the contest ends.

This is the only YLRL contest where YLs work only OMs so be sure to mark your calendar for this one. Complete rules can be found in the Contest Corner in ***Worldradio*** and other Amateur Radio magazines or you can contact Nancy, KC4IYD, at the address shown above.

Another popular event in February is Guides on the Air (GOTA), which is co-sponsored by CLARA, the Canadian Ladies Amateur Radio Association, and the Girl Guides of Canada. On 22-23 February, 1997, each Canadian call area will have at least one station on the air with a special GGC prefix. The Girl Guides will visit the stations and make contacts with other troops in Canada and in the U.K., New Zealand, and Australia, as they experience Amateur Radio and make new friends. For more information, contact the CLARA representative, Helen Archibald, VE2YAK.

Pastor Miika Heikinheimo, OH2BAD, performs the marriage ceremony for Jari Leivo, OH3KRH, and Henriikka Heporauto, OH3KRG, in Kokkola, Finland.

Updates

By mid-November, YLs in sixteen countries on five continents had contacted the organizers of the Svalbard Polar YL '98 meeting. This includes Siham Afa Moghat, YK1YL, and Dana Shabsigh, YK1DS, the only two active YLs from Syria, who have asked for registration details. It looks as if there will be YLs from many countries attending this meeting in August, 1998.

The call sign JWØYL has been approved for this special event, which will be held in the Svalbard Polar Hotel, in Longyearbyen. This hotel was built in Lillehammer for the Winter Olympics and was used by the American athletes and the press. It was later taken apart and transported to Longyearbyen, where it was rebuilt on a site with a magnificent panoramic view.

Unni Gran, LA6RHA, who is one of the organizers, has sent me a very interesting article about some of her DXpeditions to Svalbard, and I plan to feature it in future columns. She's had some close encounters with polar bears and some exciting moments on a snowmobile, but she assures us that the town of Longyearbyen is a very safe and civilized environment. It's one of the few places left in the world where people usually leave their doors and cars unlocked as there is very little crime.

There are four hotels in Longyearbyen, and one of the restaurants is ranked as one of Europe's finest. There are four pubs, a university, museum, library, church, and a hospital, and big cruise ships dock there all summer, with thousands of tourists. I saw photos and Unni's slide show on Svalbard at the Berlin YL meeting, and the scenery is breathtaking.

The other two organizers are Ruth Tollefsen, LA6ZH, and Turid Bjerke, LA9THA. For more information, you can write Ruth at P. O. Box 17, Tveita, N-0617 Oslo, Norway, or send an e-mail to jetpro@sn.no. Turid has also opened a web site at http://home.sn.no/home/tbjerke/svalbard/. Prices for the meeting, a list of optional tours,

and a schedule of events are now available.

As noted in my last column, Unni did receive authorization to operate from Vietnam on 20 Meters during the holidays and was assigned the call sign 3W6RHA. Her guest license was good from 30 December until 5 January and if you made a contact, QSLs go to Unni Gran, LA6RHA, Mellomassvn. 128, N-1414 Trollaasen, Norway.

Unni planned to stop in Bangkok on the way home to visit two YLs, Mayuree Chotikul, HS1YL, and Thida Denpruektham, HS1ASC. She took a video on Svalbard to them and info on the YL meeting, of course!

Mayuree is President of RAST, the Radio Amateur Society of Thailand, and Thida is Secretary. Thida also edits "100 Watts," the Thai Amateur Radio magazine, with a circulation of 55,000, and she has a weekly broadcast program about Amateur Radio.

Just in time for Valentine's Day, Raija Ulin, SMØHNV, ex-OH1RL, and Miika Heikinheimo, OH2BAD, collaborated on the following story about an Amateur Radio wedding in Finland:

"Field Day is the largest Amateur Radio gathering in Finland and takes place each July. It's organized by different radio clubs, and about one-fourth of the 5,500 licensed amateurs in Finland attend. The highest attendance was in 1991 when 1,600 people attended, and in 1996, 1,300 attended the meeting held in Kokkola, in the 6th district of Finland, on 11-14 July. There were also visitors there from the US, Estonia, Germany, Russia, and Sweden. The call sign OI6AI was used for the special Field Day station.

"Unlike Field Day in America, this four-day event is more like a convention, with many programs and meetings. There is a YL meeting and there is always some family program, but in 1996, something new occurred. There was a wedding.

"Jari Leivo, OH3KRH, and Henriikka Heporauto, OH3KRG, first met in 1991 and became engaged in 1994. They went through an Amateur Radio course together and were licensed at the same time. Last January, Jari decided to plan a ham wedding, and he contacted a pastor, Miika Heikinheimo, OH2BAD.

"When Miika, a well-known DXer who has been licensed for 35 years and is a pastor at the world-renown Rock Church in Helsinki for 10 years, heard of Jari's idea, his first thought was, 'This is going to be a trial.' Even though he had officiated at weddings held outside, this was very different.

"The site selected for the ceremony was an open-air cafe. An altar was built, and a wooden cross, candles and flowers were added. The nuptials began with a beloved hymn, composed by Jean Sibelius and played by the organist Vili Virtanen, OH3VV. The wedding went off very well. It was followed by a reception, with relatives, friends, other amateurs, and the Lord Mayor of Kokkola in attendance. Then it was time for the traditional wedding waltz, with a dance for everyone."

If you're wondering whether a ham wedding is going to become a traditional program for Field Day, Miika has his doubts. The weather is seldom kind during Field Day. This wedding was held on Friday, which was lucky because Saturday was a very rainy day. But Miika reports that it was certainly nice to join these two young amateurs in marriage and to bring some spiritual message to the unusual congregation.

Next July, there are no more weddings planned, but the hams in Finland will again come back to Field Day to meet people and to see what's new in Amateur Radio.

My e-mail address is waØwof@juno.com and I'm always glad to receive your comments or information for the column. **WR**

No excuse!

My wife worked at a country-music radio station in North Carolina where another employee was notorious for the colorful excuses he offered to back up his habitual tardiness.

One summer morning when he strolled in late again, the station manager demanded an explanation.

"It was so hot today," the straggler said, "that the asphalt molecules in the highway expanded, creating a greater distance between my home and the office." —*Sierra Static,* Amador County ARC

Search And Rescue Communications

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

Let's talk documentation. Up until five years ago (give or take a year or two) documentation was something that made the copier and printing business rich. If your group had an operations manual, you needed at least one for each member and a bunch of extra copies for interested agencies. Along with manuals, there were forms, reports, log books, and boxes of resource material.

There is also one thing I've noticed about documentation and manuals — they do NOT get smaller. In fact they seem to take on a life of their own and grow to fill all available storage space. At my house I have two large four-drawer file cabinets, one two-drawer file cabinet, and book shelves that stretch along the walls of two rooms. All of the file cabinets and shelves are full. Still, I have a closet and a darkroom with piles of material all carefully culled from magazines and libraries or obtained from other public safety groups. I am convinced that one does not need to know everything contained in applicable manuals and publications, as long as he or she can quickly locate the needed information.

The challenge, for me, is the ability to find material quickly. I often spend too much time looking through a box of papers trying to locate something I know I have read, but can't find. Now let's enter the electronic realm and consider the ever-growing stack of floppy disks and Zip cartridges. It is amazing how much information can be gathered and stored on computer media with the good intention of organizing the data "some way" at some future date.

While electronic data doesn't make the printing business rich, it does add a new twist on the documentation scene — that of sheer volume. It is amazing how much is being written and made available by so many individuals and groups. I remember writing a search coordinator's handbook in the mid-1970s. The material was first prepared on a typewriter, corrected and re-typed. We then entered the data into a machine that produced a paper tape. The paper tape was about an inch wide and various rows of punched holes represented the letters and punctuation.

The tape was then fed into a typesetter which produced high-quality text on white paper. These long columns of type (called galleys) were carefully cut and then pasted to form the book's pages. Once pasted up, the book could be sent to a printer who made photographic typesetting plates used to print however many copies I wanted. This whole process was time-consuming and expensive and few groups could afford either the time or money to produce a manual. This process also caused one to carefully choose words and content because it cost more to print larger documents. We didn't do graphics because they simply cost too much to include in the book.

Contrast this with today. Personal computers and high quality laser printers literally means that anyone can sit down, write until their fingers are tired, and then print a large document. If you want some graphics or even photographs, you simply scan them in and include them. If you have a manual from someone else, you can include all or parts of it. With a little poking around, you could produce a significant sized manual in a day or two. The laser output would be of high quality and the cost not prohibitive.

Where are we headed? In my opinion toward manuals that try to contain everything-and in the process, contain very little of value. What's missing in today's home publishing is the critical step of editing and evaluation. I'm not talking spelling (although correct spelling is always a plus), but referring to the critical analysis of looking at the written word to create a concise document worth the time to read or to have available.

I received an electronic copy of a group's "Communications Handbook" that is an impressive 153 pages in length. I anticipated an enjoyable hour or so of reading to learn how this group dealt with communications issues. The first page had several missing punctuation marks and a couple of misspelled words. It went downhill from there. One whole section simply listed all the NOAA weather stations for the entire United States. While this listing is impressive, I doubt the group has the need to carry this list into the field. An improved listing might simply list the ten or so assigned weather channels, and state that if you tune through them, you might hear the NOAA weather station if one is near.

Another lengthy chapter listed all the frequency spectrum assignments for 150 to 174 MHz including those for business, agriculture, marine, government, and public safety. Again, this is of some value perhaps to the scanner enthusiast, but of questionable value to a public safety group. This manual also contains lengthy chapters on radio theory and propagation and a several-page discussion of how to buy a repeater (really!).

The section on batteries seemed to contain mostly personal opinion as to why batteries fail. The antenna section mentioned Doppler shift, resonance, construction, and pictures of various base station configurations. Remember this is a *field* oriented public safety team. The remainder of the manual was just simply too painful to read through.

Let's assume you need to write an operations manual for your group. A manual is only valuable if it's read and helps your group accomplish its mission. Here are some ideas:

1. Don't include large sections of material that can be easily obtained elsewhere. Antenna construction, hazardous material guidelines, frequency lists, maps, and theory all fall into this category.

2. List ONLY material unique to your group such as policy and procedure. You might include items of standardization (frequency channels, code words, response areas, etc.).

3. Ensure EVERY section of your manual directly supports your group's mission. If your group does

NOT maintain an Emergency Operations Center's equipment, do not include soldering techniques, connector installation or construction material.

4. Sit as a group and brainstorm what will contribute to "mission success" and what "might be nice." Then discard the "might be nice" stuff. One idea of a "mission success" area to include would be the quick and dirty guide to a radio installed in, for example, the city EOC. We have had local folk respond in support of a facility only to find they didn't know how to operate that new-fangled radio. It's worth the space in your manual to tell people how to operate equipment UNIQUE to your assignment, but don't feel the need to reproduce every owner's manual you can find.

5. Include a section on where to find the "might be nice" stuff such as hazardous material guidelines, antenna theory, construction ideas, etc. This way your members can take the time and research their own areas of interest.

6. If it is a field manual, evaluate it from the "field" perspective. In other words: "If I'm in the field, will this information be of value to my assignment?" If the data isn't relevant, leave it out.

7. Always let someone else (even from another group) review your material. Ask them for a critical evaluation, not a pat-on-the-back read-through. Double check spelling and punctuation as well as names, phone numbers, and call signs.

8. If you can make it available electronically, do it! If you have to print it, keep it compact and evaluate the necessity of blank pages (for notes), table of contents, and index. Many small manuals only need a table of contents. Carefully consider if you want to print it full size or make it fit into personal planners. If it's a field-use document, the planner size might have the greatest chance of being *carried* to the field.

There is nothing wrong with using materials already available such as callout forms, radio logs, communications theory, and general preparedness pamphlets. Time is valuable and is often best spent preparing your members and their equipment for your group's unique role in public service.

My immediate task has to be sorting through all this collected documentation and being brave enough to start throwing some of it away. The alternative is the possibility of being buried alive when the piles in the closet collapse!

Response gear

The Maine Association for Search and Rescue has a list detailing the recommended minimum personal equipment gear for an SAR callout. While the list is not earth-shattering, they present it in a different format. The list is broken into basic gear, a 24-hour pack, and a 48-hour pack. The basic gear list is then broken down into "working equipment," "administrative," "personal," and "additional winter equipment."

I like their format. Rather than going with specific equipment, each individual can choose items they prefer. For example, the list requires a liquid-filled compass as a minimum. If the person decides on a highly technical compass or simply the basic model, that's a personal choice. The list requires hand protection, ear protection, lip protection, survival gear, etc., and gives you some basic guidelines for each category. Each member must evaluate their own need and choose equipment that fits — they're not bound by specific items simply for the sake of having items. This appeals to me as it seems the member would be more likely to take items he or she could actually use rather than things simply for the list's sake.

I also like the 24-hour and 48-hour additions. The instruction tells members to add items when overnight or two-day assignments are anticipated. Such additional items include clothing, shelter, and food items. Many times a group will require items that look good on paper but are seldom used in the field. If you can structure your equipment lists to be both useful and flexible, you'll see more of your members actually prepare grab-and-go gear.

Think modular

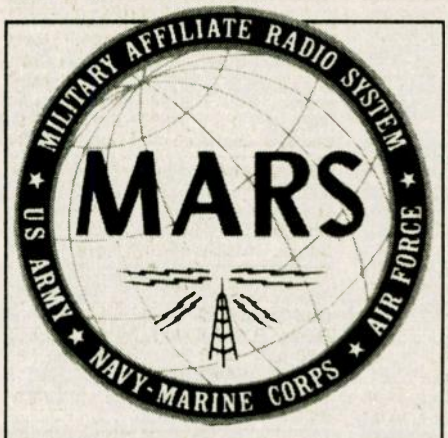
When you design gear for field use think modular. If you're like the rest of us and cannot afford to stockpile gear for a callout, your gear must be set up so it can be quickly moved to the field. Again, think modular.

Some of the best ideas I've seen make use of lightweight military cargo containers of various sizes. Locally we're finding these containers at military surplus and even at the local Air Force base surplus property sales facility. The containers are sturdy, come in various sizes, and can be set up and moved quickly. Several local operators have installed gear into these containers with antenna and power connectors mounted though the container walls.

One can disconnect the antenna and power lead, snap on the lid and pick the whole station up for quick transport. Bundling gear into logical units also makes sense. In one box you put your packet station, in another your HF radio and tuner (there's enough room in the box for coax and dipole antenna). One container can be set up for administrative gear and another for your public service, GMRS, etc. The container lids also make adequate "emergency" chairs, water pails for washing up, or places to stash gear while on site.

I've been working on a variation of the Boy Scout camp kitchen as a field communications set-up but that may be abandoned in favor of several modular containers. The "kitchen" would require someone to help load and unload it while the containers could be loaded and set up by one person. The container idea also makes sense as I can tailor the gear needed to the response.

Well, kick around these ideas and let me know what works and what doesn't work. You can find me via e-mail (jw@desnews.com) or at the address listed at the top of this column. Best wishes from Salt Lake City! WR



Lorraine S. Matthew, N4ZCF
MARS call AAA9PR

February reminds all of us of those great Presidents who have led this country to greatness, and the warmth of Valentine's Day to those who love and are loved. With this mix of patriotism and emotion, I am reminded of portions of a poem which was circulated during the Christmas season.

The poem is attributed to Major Bruce Lovely who adapted it from an anonymous version which has also been circulated widely. The title given in this circulation is "A Soldier's 'Twas the Night Before Christmas."

In the poem, Santa Claus visits a soldier's hut in a far outpost somewhere in the world. Some of the observations made by Santa Claus included: (see poem on right)

It is to this sacrifice, made daily by all of our military personnel deployed all over the world, that this column is dedicated. Those thousands who serve in Korea exemplify those in other locations.

Serving those soldiers, sailors and airmen is the nationwide MARS system that has been set up in Korea. Thirteen Army MARS stations serve the armed forces in the nation of South Korea.

These MARS stations have such names as Yongsan, Camp Howze, and Suwon. Most of the stations are located north of Seoul. The Yongsan station serves as the gateway station for the entire country (ABM4USA). This gateway station receives and distributes most of the message traffic going out of and into the country. This station is operated by assigned military personnel. The remaining stations are manned by military operators on an extra duty or volunteer basis. These are operators who know the importance of good morale among the troops and their families and loved ones. As such, they handle thousands of messages called MARS-grams and those always-precious phone patches from the deployed service person to the people left at home.

The mission statement for Korea Army MARS is very similar to that of CONUS (Continental United States) Army MARS. The Korea mission statement has three parts:

Provide emergency communications on a local, national, or international basis as a supplement to normal communications.

Provide a morale MARSgram and phone patch service to train operators in voice and data handling procedures.

Encourage MARS operators to further study in radio communications. Notice the training value of the messages and phone patches. This is one area in which morale for the soldier supplies training for another soldier as well, not to mention the civilian MARS members who receive, relay, and deliver the messages and who handle the phone patches here at home.

For the first time, in 1996, Korea Army MARS participated in the vitally important NEO (Non-combatant Evacuation Operation) exercises. There are thousands of civilian non-combatant personnel in Korea. It has been a practice in Korea to have an evacuation plan for those people and to practice that plan just in case hostilities or other emergencies require their move to safety. Army MARS provided communications support for the 2nd Infantry Division Area 1 Commander during an evacuation exercise of non-combatants from Camp Casey to Camp Humphreys. NEO personnel used handheld transceivers and a MARS repeater to provide reports from the airfield to the Emergency Operations Center (EOC) on the movement and manifesting of the non-combatants.

As Robert Sutton, Chief Army MARS, stated, "Emergency communications support (by Army MARS) is not confined just to the United States and its Trust Territories. It is also a valuable asset for our military and families stationed overseas."

As Army MARS operates on a worldwide basis, we salute those who serve, by serving them in whatever way we can. With great gratitude in our hearts, we look at February with its unique mix of patriotism and love. Let us never forget these fine men and women. They are there for us every day of the year, and twenty-four hours per day. Army MARS is there for them, and for our citizens at home, on the same basis.

Army MARS marches forward proud, professional and ready. WR

"I realized the families that I saw this night, Owed their lives to these soldiers who were willing to fight."

"They all enjoyed freedom each month of the year, Because of the soldiers like the one sleeping here.

"I couldn't help wonder how many lay alone On a cold Christmas Eve in a land far from home."

"The soldier awakened and I heard a rough voice, 'Santa, don't cry. This life is my choice.

"I fight for freedom, I don't ask for more. My life is my God, my country, my Corps.'"

"Then the soldier rolled over, with a voice soft and pure, Whispered, 'Carry on Santa. It's Christmas Day. All is secure.'"

Visit Your Local RADIO CLUB

ALASKA

South Central Radio Club. 8023 E. 11th Ct., Anchorage, AK. Meets 2nd Fri./monthly, 7 p.m., UAA Business Ed. Bldg., Rm. 220. KL7CC, (907) 338-0662 for info. Club rptr: KL7CC/R 146.97(-) PL 103.5. 2/97

ARIZONA

Arizona Repeater Association. P.O. Box 35758, Phoenix, AZ 85069-5758. Operates 20 VHF & UHF rptrs. in AZ. Meets 4th Thurs./monthly, 7:30 p.m., 1515 E. Osborne, Phoenix. Info: (602) 631-4879 9/97

Cochise Amateur Radio Assn., (CARA). Meets 1st Mon./monthly, 7:30 p.m. at club facility on Moson Rd., Sierra Vista, AZ. WA7KYT/R 146.76(-) rptr. 5/97

Old Pueblo Radio Club, (OPRC). P.O. Box 42601, Tucson, AZ 85733. Meets 2nd Wed./monthly, 7:15 p.m., Northwest Neighborhood Center, 2160 N. 6th Ave. (South of Grant). 2/97

Tucson Repeater Assoc., P.O. Box 40371, Tucson, AZ 85717-0371. Meets 2nd Sat./monthly, 7:15 p.m., Dept. of Emergency Mgmt., 130 W. Congress. Net Thurs. 7:30 p.m. 146.82(-), 146.88(-), 147.08(+), 448.550(-) & 145.15 Packet. 3/97

CALIFORNIA

Amador County Amateur Radio Club. P.O. Box 1094, Pine Grove, CA 95665. Meets 1st Thurs./monthly, 7:30 p.m., Jackson Sr. Cntr., 229 New York Ranch Rd., Jackson, CA. Info: call 146.835(-). 5/97

Amateur Radio Club of Anderson, (ARCA). Meets 2nd Thurs./monthly, 7:30 p.m. Amer. Legion Post #746, 1709 Bruce Dr., Anderson, CA. Net every Tue., 7:30 p.m. on 146.64. 4/97

Clovis Amateur Radio Pioneers, (CARP). P.O. Box 514, Clovis, CA 93613. Meets 1st Fri./monthly, 7:30 p.m., Clovis Sr. Cntr., 840 4th St. Info: (209) 298-7707, KE6TCY 147.675(-) PL 141.3 net Thur. 7 p.m. ARRL SSC 3/97

Contra Costa Communications Club, Inc., WD6EZC/R. P.O. Box 20661, El Sobrante, CA 94820-0661. Meets 2nd Sun./monthly (except May & Dec.), 0630, Baker's Square Restaurant in Richmond, CA. Info: Ed Caine, KA6OFR, (707) 996-0962. 1/98

Downey Amateur Radio Club Inc., W6TOI. Meets 1st Thurs./monthly, 7:30 p.m., So. Middle Sch. cafetorium, 12500 S. Birchdale, Downey, CA. (Summer exception: contact Doug, N6WZI, (310) 929-1441). VHF net W6GNS rptr. 146.175(+) Thurs., 7:30 p.m. 5/97

East Bay Amateur Radio Club, Inc. Meets 2nd Fri./monthly, 7:30 p.m., Albany Sr. Cntr., 846 Masonic Ave., Albany, CA. Info: S. Primbsch, (510) 741-8227. 145.110 MHz. 6/97

Fresno Amateur Radio Club. Meets 2nd Fri./monthly, 7:30 p.m., Ernie Pyle School, 4140 N. Augusta, Fresno, CA. 146.94(-) 223.94(-). 11/97

Fullerton Radio Club, Inc., W6ULI. P.O. Box 545, Fullerton, CA 92632. Meets: 3rd Wed./monthly, 7:30 p.m., Sr. Citizens Ctr., 340 W. Commonwealth, Fullerton. Net ea. Tue., 8 p.m. 147.975(-). Info: Bob Hastings, K6PHE (714) 990-9203. 6/97

Garlic Valley Amateur Radio Club (GVARC). Meets last Sat./monthly, 8:30 a.m., Dimitri's Gilroy Inn, 1st and Wayland St., Gilroy, CA. Info: Hal, AC6LK, (408) 779-7787. Net Tues., 7:30 p.m. Club rptr. K6THR, 147.825(-). 6/97

Golden Empire Amateur Radio Society, (VEC). P.O. Box 508, Chico, CA 95927. Club call W6RHC, rptr. 146.85(-). Meets: 3rd Fri./monthly, 8 p.m. at 1528 Esplanade, Rm. 101, Chico. 9/97

Golden Triangle ARC, (GTARC). Meets 4th Mon./monthly, 7:30 p.m., Sharp Health Care Activities Rm., 25500 Med. Ctr. Dr., Murrieta, CA 92562. 6/97

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 Secretary, P.O. Box 3190, Livermore, CA 94551-3190. (510) 846-6513. 1/98

Marin Amateur Radio Club (MARC). W6SG. Box 151231, San Rafael, CA 94915-1231. Meets 1st Fri./7:30 p.m., Kaiser Hosp., Bldg. 2, Terra Linda, CA. (Summer exceptions; contact Pete N6IYU, 924-1578). Sun. AM Club at Red Cross, San Rafael. 9/97

Motorcycling Amateur Radio Club. Meets 2nd Sat./monthly, 8 a.m., Lake View Cafe, 2099 E. Orangethorpe, Placentia, CA, at 91 Fwy/Lakeview. Info: Ray Davis, KD6FHN, (714) 551-2010 or (714) 551-1036. 2/97

Mount Diablo Amateur Radio Club. P.O. Box 23222, Pleasant Hill, CA 94523. Meets 3rd Fri./monthly, 8 p.m., Our Savior's Lutheran Church, 1035 Carol Ln., Lafayette, CA. Net Thurs. 7:30 p.m. on 147.06(+) 100Hz PL. Info: (510) 932-6125. 7/97

North Hills Radio Club. Meets 3rd Tue./monthly, 7:30 p.m., Carmichael Elks Lodge, 5631 Cypress, Carmichael, CA. Nets 8 p.m. Tue., Wed., Thur., 145.190(-) (162.2) and 224.400(-). Contact: Bob, WA6ULL (916) 983-2776. http://www.ns.net/~NHRC 3/97

River City A.R.C.S. Meets 1st Tues./monthly, 7 p.m., SMUD Bldg., Don Julio at Elkhorn, Sacramento, CA. License classes offered. For info contact Lyle, AA6DJ, (916) 483-3293. 9/97

Sacramento Amateur Radio Club. Meets 2nd Wed./monthly, 7 p.m. Sac. Blood Ctr., 32nd St. & Stockton Blvd., Sacramento, CA. Info net at noon on rptr. W6AKR 146.91(-). Steve Cates, KC6TEV, (916) 391-7341 or Les Ballinger, WA6EQQ, (916) 393-4775. 1/98

Sacramento "Old Timers" Amateur Radio Society 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. 12/97

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., United Way, 1922 The Alameda, San Jose. Net all other Mon., 7:30 p.m. W6UU/R 146.385(+), 442.425(+) PL 107.2. 5/97

Shasta Cascade Amateur Radio Society, (SCARS). 2124 Airstrip Rd., Redding, CA 96003. 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. 9/97

Sierra Foothills ARC. 1222 San Simeon Dr., Roseville, CA. Meets 2nd Fri./monthly, 7:30 p.m., Auburn Library (Beecher Rm.), 350 Nevada St. Thurs. nets 7:30 p.m. 145.430(-) (PL 94.8), 7 p.m., Fri. 28.415. 3/97

South Bay ARC. P.O. Box 536, Torrance, CA 90508. Meets 3rd Thurs./monthly, 7:30 p.m., Torrance Memorial Hosp., 3330 Lomita Blvd., Torrance, CA. Talk-in on WB6MYD rpt. 244.38(-). Info: (310) 328-0817. 7/97

Southern California Six Meter Club. P.O. Box 10441, Fullerton, CA 92635. USB Net Tue., 8 p.m., 50.150. FM Rpt. Net Thurs., 8 p.m., 52.86/52.36 tx. FM Smplx, call freq. 50.300. Net Sun., 10 a.m. 50.40. 4/97

Southern Humbolt ARC, (SHARC). Meets 4th Tues./monthly, 7 p.m., Best Western Humboldt House Inn, Garberville, CA. Talk-in on 146.79(-). 4/97

Southern Sierra ARS. Meets 2nd Thurs./quarterly (Jan., Apr., Jul., Oct.), 7 p.m., Veteran's Hall, 125 East F St., Tehachapi, CA. Contact: Caroline, KD6KMN, (805) 822-5995. 147.06(-), 224.42(-), 145.090(S) Packet. 1/98

Stanislaus Amateur Radio Assoc., Inc. (SARA). P.O. Box 4601, Modesto, CA 95352. Meets 3rd Tues./monthly, 7:30 p.m., Stanislaus Co. Admin Bldg. 145.39(-) (PL 136.5), 224.14, 440.225 (PL 136.5). 3/97

Tri-County Amateur Radio Assoc. P.O. Box 142, Pomona, CA 91769. Meets: 2nd Mon./monthly, 7:30 p.m., Covenant United Methodist Church, corner of Towne Ave. & San Bernardino Rd. in Pomona, CA. 1/98

Trinity Country ARC. P.O. Box 2283, Weaverville, CA 96093. Meets 2nd Wed./monthly, County School Adm. Bldg. in Weaverville, 7:30 p.m., Rptrs: WA6BXN 146.73(-) PL 85.4, W6HOR 146.925(-) PL 85.4. 10/97

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.), 7:00 p.m. Monitors 145.52 Simplex 10 a.m.—5 p.m. 7/97

Vaca Valley Radio Club. Meets 2nd Wed./monthly, 7:30 p.m. (Board mtg., 7 p.m.) Vaca Fire Dist. Stn., Vine St. in Vacaville, CA. Rptr. WD6BUS 145.47(-) PL 127.3. Mary Turner, (707) 451-2134. 5/97

Victor Valley Amateur Radio Club. P.O. Box 869, Victorville, CA 92392. Meets 2nd Tues./monthly, 7:00 p.m., Presidio Recreation Cntr., 11100 Apple Valley Rd., Apple Valley, CA. Talk-in 146.94(-), PL 91.5. Net Sun. 7 p.m. 146.94(-). 1/98

West Coast Amateur Radio Club, (WCARC). P.O. Box 2617, Costa Mesa, CA 92628. Meets 3rd Thurs./monthly, 7 p.m., Fountain Valley Sch. Dist. office, 17210 Oak St., Fountain Valley, CA. 145.440(-) PL 136.5. For info: Joe, KA6LPZ, (714) 963-4426. 10/97

Westside Amateur Radio Club. P.O. Box 11092, Marina del Rey, CA 90295. Meets 3rd Thurs./monthly, 7:30 p.m., Red Cross Bldg., 1450 11th St., Santa Monica, CA. Net every Tues., 8 p.m., 146.67(-). Voice mail: (310) 917-1100. 5/97

Willits Amateur Radio Society, (WARS). P.O. Box 73, Willits, CA 95490. Meets 4th Mon./monthly, 7 p.m., Brooktrails Fire Dept. (northwest of Willits). Talk-in: 145.13(-), PL 103.5. 9/97

Yolo Amateur Radio Society. Meets 1st Tues./monthly, 7:30 p.m., Training Rm. of the Davis PD, 226 F St., Davis, CA. Contact Dave Nishikawa, KC6YFG, (916) 756-6375/Talk-in 144.430. 10/97

Yuba-Sutter Amateur Radio Club, (YSARC). P.O. Box 1169, Yuba City, CA 95992. Meets 2nd Tue./monthly, 7:30 p.m., Yuba City Police Bldg., 1545 Poole Blvd., Yuba City. 1/98

CONNECTICUT

Middlesex A.R.S., (W1EDH). Meets Tuesdays, 7 p.m., Adult Day Care Cntr., 32 Miner St., Middletown, CT. VE classes/exams; ARRL Service Club. Ctc: M. Harper, W1FYM (860) 633-6295, P.O. Box 5, S. Glastonbury, CT 06073. 3/97

Tri-City Amateur Radio Club. P.O. Box 686, Groton, CT 06340-0686. Meets 2nd Tue./monthly, 7 p.m., St. Lukes Lutheran Church of Gales Ferry on Rt. 12. Info: Bob Dargel, KA1BB, (860) 739-8016. 10/97

FLORIDA

Gulf Coast ARC. P.O. Box 595, New Port Richey, FL 34656. Meets 4th Mon./monthly, 7:30 p.m., 3852 Prime Place, New Port Richey. WA4GDN rptrs. 146.67(-) & 145.33(-), serving all of Pasco County. 9/97

Indian River ARC, Inc., (IRARC). 597 Capri Rd., Cocoa Beach, FL 32931-3011. Meets 1st Thurs./monthly, 7:30 p.m., Community Church of the Nazarene, 400 Crockett Blvd., Merritt Island, FL. 3/97

Port St. Lucie ARA. Meets 1st Fri./monthly, 7:30 p.m., St. Andrews Church, Prima Vista Blvd., Port St. Lucie, FL. Contact: Roy Cox, KT4PA, (561) 340-4319. Call in 146.955(-). 9/97

Saint Petersburg Amateur Radio Club. Meets 1st Fri./monthly, 7:30 p.m., Red Cross Bldg., 818 Fourth St. North, St. Petersburg, FL. Nightly net 6:30 p.m., 147.06(+). Rptrs. 147.06(+), 224.66(-), 444.475(+). Info: C. Wagner, KE4EYI, (813) 896-4274. 1/98

South Brevard Amateur Radio Club. P.O. Box 2205, Melbourne, FL 32902. Meets 1st Tue./monthly, 7 p.m., Public Library, 540 Fee Ave., Melbourne, FL. 6/98

Vero Beach ARC, W4OT. P.O. Box 2082, Vero Beach, FL 32961. Meets 2nd Thurs./monthly, 8 p.m., Emerg. Mgmt., Indian River County Adm. Bldg., 1840 25th St. Net Mon., 7:30 p.m. 146.64. 1/98

GEORGIA

Dalton Amateur Radio Club, Inc., (DARC). P.O. Box 143, Dalton, GA 30722-0143. Meets 4th Mon./monthly, 7:30 p.m., Magistrate Court Bldg., corner of Waugh St. & Thornton Ave., Dalton, GA. Info: Harold Jones, N4OTC, 706/673-2291. 3/97

HAWAII

Big Island Amateur Radio Club. P.O. Box 1938, Hilo, HI 96721-1938. Meets 2nd Tue./monthly, 7 p.m., Army Reserve Center, 470 W. Lanikaula St., Hilo. Talk-in on 146.88(-). 6/97

Emergency Amateur Radio Club, (EARC). P.O. Box 30315, Honolulu, HI 96820-0315. Meets 4th Thurs./monthly, 7 p.m., Lincoln Elem. Sch., 615 Auwaiolimu, Honolulu. Nets: nightly 7:30 p.m., 146.88 & 146.80. Rptrs: 146.76(-), 146.80(-), 146.88, 146.98(-), 146.94(-). Info: (808) 833-6944, WH6CZB. 10/97

Koolau Amateur Radio Club, (KARC). 45-145 Mikihilina St., Kaneohe, HI 96744. Meets 2nd Sat./monthly, 9:30 a.m., Hoomaluhia Pk., Kaneohe, HI. 4/97

ILLINOIS

Chicago FM Club Inc., (CFMC). P.O. Box 1532, Evanston, IL 60204. 146.76(-)(PL 107.2)/224.10/224.18/443.75 (PL 114.8). Ham help line: (312) 262-6773. Info net Tues., 9 p.m. on 146.76(-). Meets 3rd Wed./monthly, 8 p.m. 7/97

Fox River Radio League. P.O. Box 673, Batavia, IL 60510-0673. Meets 2nd Tue./monthly, 7:30 p.m., Old Bank Bldg., 900 No. Lake St., lower level, Northgate Shopping Ctr. & Rt. 31, Aurora, IL. 7/97

Hamfesters Radio Club, W9AA. P.O. Box 42792, Evergreen Park, IL 60805. Meets 1st Fri./monthly, 8 p.m., Crestwood Civ. Ctr., 139th & Kostner, Crestwood, IL. Nets: Sun. (local) 0100 UTC, 28.410 MHz; Mon. 9 p.m. 146.43 S., Packet Mailbox 145.65 MHz. Info: (312) 974-3291. 1/98

Peoria Area Amateur Radio Club, (PAARC). Meets 2nd Fri./monthly, 7 p.m., 1401 N. Knoxville Ave. Info: (309) 685-6698. Rptrs: 146.85(-) & 147.075(+). 5/97

Schaumburg ARC. Meets 3rd Thurs./every other month, 7 p.m., Rec. Center, corner of Bode and Springinsguth Roads. Nets all other Thurs., 9 p.m., 145.23(-). Info: (708) 612-9446. 8/97

The Starved Rock Radio Club, W9MKS. P.O. Box 198, Tabor St., Leonore, IL 61332. Meets 1st Mon./monthly, 7:30 p.m. Rptr. net 7 p.m. Wed./wkly., 147.12(+). 11/97

LOUISIANA

Baton Rouge ARC. Meets last Tue./monthly, 7 p.m., Catholic HS cafeteria, 855 Hearthstone Dr., Baton Rouge, LA. Info: Norma Ramey, WD5GFD, (504) 654-6087. Club rptr. 146.79(-). 9/97

MAINE

Androscoggin Amateur Radio Club. Meets 1st Wed./monthly, 7 p.m., Auburn Police Station, 1 Minot Ave., Auburn, ME. Info: (207) 782-8699. 11/97

MASSACHUSETTS

Wellesley Amateur Radio Soc., & Babson Wireless Club. Meets 1st & 3rd Thurs./monthly, 7:30 p.m., Wellesley, MA (Sept.- June) Talk-in 147.03(+). Info: J. Driscoll, NV1T, (617)444-2686. 12/97

MICHIGAN

Adrian Amateur Radio Club, W8TQE. Box 26, Adrian, MI 49221. Meets 1st Fri./monthly, 7:30 p.m., Civil Air Patrol Bldg., Lenawee Co. Airport, Cadmus Rd., Adrian. ARES net Sun., 9 p.m. 145.37(-). Info: Brian Sarkisian, KG8CO, (517) 265-1537. 3/97

Eastern Michigan Amateur Radio Club, (EMARC). Meets 1st Tue./monthly, 8:30 p.m., Woodland Developmental Cntr., Kimball Township (Range @ Smiths Creek Rd.). Contact Frank Forsyth, N8XTO, (810) 987-3540. Talk-in: 147.30(+). 9/97

Edison Radio Amateurs Assoc. Meets 2nd Fri./monthly (Sept.-June), 7 p.m., Edison Western Wayne Div. HQ, 8001 Haggerty, Belleville, MI (So. of Ecorse Rd.). Net each Thurs., 8 p.m. on 145.33(-) and 442.80(+) rptrs. 3/97

Genesee County Radio Club, Inc. Meets 3rd Tues./monthly, 7:30 p.m., Genesee Area Skill Center, Torrey Rd., Flint, MI. (810) 634-6077. 2/97

MINNESOTA

Viking Amateur Radio Society (VARS). Meets last Tues./monthly, 7:30 p.m., basement EOC, Waseca, MN. Call-in 146.94(-). 7/97

MISSISSIPPI

Jackson Amateur Radio Club, Inc. Meets 3rd Thurs./monthly, 7 p.m., Am. Red Cross Bldg., Riverside Dr., Jackson, MS 39202. 10/97

MISSOURI

PHD Amateur Radio Assn., Inc. P.O. Box 11, Liberty, MO 64068. Meets last Tue./monthly, 7 p.m., Gladstone Comm. Bldg. (816) 781-7313, Volunteer Examiner Coordinator. 2/97

NEVADA

Frontier Amateur Radio Society, (FARS). Meets: 2nd Sat./monthly, bkfst. mtg. 8 a.m., Country Inn, SE cor. W. Sunset, Valle Verde, Henderson NV. Club info: Jim Frye, NW7O, (702) 456-5396 or Bill Scarborough, WA6ASI, (702) 269-9551. 7/97

Wide Area Data Group, Inc. P.O. Box 3132, Sparks, NV 89432. Meets 1st Sat./monthly, 9 a.m., Jack's of Reno, 5485 Equity Ave., Reno. Info: (702) 356-8200. Call in on 147.30(+) MHz. 5/97

Sierra Intermountain Emergency Radio Assoc., (SIERA). Meets 2nd Tues./monthly, 7:30 p.m., Carson Valley Museum & Cultural Cntr., 1477 Hwy 395 North, Gardnerville, NV. Contact: George Uebele, WW7E, (702) 265-4278, 147.330 MHz. 11/97

Sierra Nevada Amateur Radio Society (SNARS). P.O. Box 7727, Reno, NV 89510-7727. Meets 2nd Sat./monthly, 0800, KT's Restaurant, 5485 Equity Ave. (corner Equity & Financial). 146.61(-) PL 123. 443.075(+) PL 123. Contact Swede Ohlson, WDØAXP, (702) 852-2402. 1/98

NEW HAMPSHIRE

Great Bay Radio Assn., WB1CAG. P.O. Box 911, Dover, NH 03820. (603) 749-2970/332-9107. Meets 2nd Sun./monthly, 7 p.m., Rochester Community Ctr. Talk-in: 147.57. 11/97

NEW JERSEY

10-70 Repeater Assn., 235 Van Emburgh Ave., Ridgewood, NJ 07450. Meets 1st Wed./monthly (except July & Aug.), 8 p.m., VFW, Valley Rd., Clifton, NJ. Rptrs. 146.70(-), 224.84(-), 444.15(+). 10/97

Bergen Amateur Radio Assoc., (BARA). P.O. Box 304, Hackensack, NJ 07601. Meets 1st Sun./monthly, New Milford Elks Lodge, Patrolman Ray Woods Dr., New Milford, NJ 07646. Nets: 28.350 Mon. 9 p.m., 144.40 9 p.m. Wed. 5/97

South Jersey Radio Assoc., (SJRA), K2AA. Meets Jan.-Oct., 4th Wed./monthly, 7:30 p.m. (Nov.-Dec. 3rd Wed), Bloomfield Fire Hall in Pennsauken, NJ. Talk-in: 145.29(-) rptr. 8/97

NEW YORK

Amateur Radio Assoc. of the Tonawandas, (ARATS). P.O. Box 430, No. Tonawanda, NY 14120. Meets 3rd Tues./monthly (except July & Aug.), 7:30 p.m., Sweeney Hose Co., 499 Zimmerman St., No. Tonawanda, NY. Talk-in: 146.955(-) rptr. W2PVL. 10/97

Genesee Radio Amateurs, (GRAM). N.Y.S. Civil Defense Ctr., State St., Batavia, NY 14020. Meets 3rd Fri./monthly, 7:30 p.m. 147.285(+) W2RCX. 1/98

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, 7:30 p.m. Info: Arnie, WB2YXB, (718) 343-0172. 2/97

Orleans County Amateur Radio Club, (WA2DQL). Meets at Emergency Management Office, West County House Rd., Albion, NY 14411, 2nd Mon./monthly, 7:30 p.m. 145.27(-) — WA2DQL. 12/97

PROS, Pioneer Radio Operators Society. Meets 1st Wed./monthly (except July/Aug.), 7 p.m., Sardinia Town Hall, Savage Rd., Sardinia, NY. Net 9 a.m. Thurs. 3853 kHz. 3/97

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! 9/97

Suffolk County Radio Club, (SCRC). Meets 3rd Tues./monthly, 8 p.m., Bohemia Rec. Ctr., Ruzicka Way, Bohemia, NY. Talk-in: 145.21(-) rpt. Morten Eriksen, KA2UIU, (516) 929-6911. 4/97

Westchester Amateur Radio Assoc., (WARA). Meets 1st Wed./monthly, 7:30 p.m., Am. Red Cross Bldg., 106 N. Bway, White Plains, NY. Club net: 145.495(-) rpt. Tues., 7:30 p.m. Info: Dan Grabel, N2FLR, (914) 723-8625. 2/97

Westchester Emergency Comm. Assoc., (WECA). Meets 2nd Mon./monthly, 7:30 p.m., Westchester County Ctr., White Plains, NY. Contact WB2VUK (914) 631-7424 or WECA INFO LINE (914) 741-6606 for details. Talk-in WB2ZII/R 147.06(+) PL 114.8/2A. 10/97

Yonkers Amateur Radio Club, (YARC). Meets 2nd Sun./monthly, 10 a.m., 1st Pct., Yonkers Police Station, E. Grassy Sprain Rd., Yonkers, NY. Info: P.O. Box 378, Centuck Sta., Yonkers, NY 10710. (914) 963-1021. 146.865(-), 440.150(+). 10/97

NORTH CAROLINA

Stanly County Amateur Radio Club. Stanfield, NC. Meets 4th Thurs./monthly, 7 p.m. Talk-in 146.985(-) for location. Wed. net 9 p.m. 146.985(-). Fri. tech net 9 p.m. 147.390(+). Phone: (704) 888-4815. 5/97

OHIO

Ashtabula County ARC. Ken Stenback, AI8S (964-7316). County Justice Ctr., Jefferson, OH. Meets 3rd Tue./monthly, 7:30 p.m., County rptr., 146.715(-). 10/97

Clyde Amateur Radio Society (CARS). Meets 2nd Tue./monthly, 7 p.m., Municipal Bldg., Clyde, OH 43410. NF8E rptr. 145.35(-) and 442.625(+) MHz. Net Sun. 9 p.m. Info: E. Remaley, KA8CAS. 3/97

Greater Cincinnati Amateur Radio Assn., (GCARA). ARRL SCC, meets 4th Wed./monthly, 7:45 p.m., Brusman's Hall, 4813 Vine St., St. Bernard. Nets: Mon. 9 p.m. EST 147.15(+), Thurs. 9 p.m., 1.936 MHz. Info: WA8STX, (513) 772-7378 or KW8X 961-3250. 11/97

Toledo Mobile Radio Association. P.O. Box 273, Toledo, OH 43697; (419) 243-3836. Meets 2nd Wed./monthly, 7:30 p.m., Luke's Barn, Lucas County Rec. Ctr., 2901 Key St., Maumee, OH. 147.270(+) Net every Sun. 8:30 p.m. 1/98

Van Wert Amateur Radio Club, Inc. P.O. Box 602, 1220 Lincoln Hwy., Van Wert, OH 45891. Meets 1st & 3rd Sat./monthly, 8 p.m. Call-in: 146.85(-). 2/97

Western Reserve Radio Assoc. P.O. Box 81252, Cleveland, OH 44181-0252. Meets 2nd Wed./monthly, 7:30 p.m., Jenkins Community Cntr., Main St., Olmsted Falls, OH. Info: B. Beckman, N8LXY, Pres., 146.73(-), 444.900(+) MHz. 6/97

OREGON

Central Oregon Coast ARC. P.O. Box 254, Florence, OR 97439. Meets 3rd Sat./monthly, & every Wed./weekly, 9 a.m. for brkfst. at Woody's Rest. Net Wed. 7 p.m., 146.80(-). Info: 997-2323 or 997-4074. 1/98

Central Oregon Radio Amateurs, (CORA). P.O. Box 723, Bend, OR 97709. Meets last Thurs./monthly, 7 p.m., Bend Sr. Ctr., 1036 NE 5th, Bend, OR. 147.06(+) MHz. Info: (541) 385-9497. 6/97

Keno Amateur Radio Club. P.O. Box 653, Keno, OR 97627. Meets 3rd Thurs./monthly, 7 p.m., Keno Fire Stn. Rptr. 147.32(+) W7UFM. Info: Tom Hamilton, WD6EAW, (503) 883-2736. 11/97

Umpqua Valley Amateur Radio Club, Inc. P.O. Box 925, Roseburg, OR 97470. Meets 3rd Thurs./monthly, 7:30 p.m., Douglas County Courthouse, Rm. 310, Roseburg, OR. Info: W5PII/R 146.90(-) or (503) 673-1310. 6/97

PENNSYLVANIA

Butler County Amateur Radio Assn. P.O. Box 1787, Butler, PA 16003-1787. Meets 1st Tues./monthly, 7:30 p.m., Boy Scout Cntr., 830 Morton Rd., Butler, PA. Call-in W3UDX/R 147.36(+). Net 10:10 p.m. nightly. 10/97

Mercer County Amateur Radio Club, W3LIF. P.O. Box 996, Sharon, PA 16146. Meets 4th Tue./monthly, 7:30 p.m., Shenango Valley Med. Ctr, Farrell, PA. Net, Thurs. 9 p.m. on 145.35(-) W3LIF, Digi. 145.01. 3/97

Warminster Amateur Radio Club, WA3DFU. P.O. Box 113, Warminster, PA 18974. (215) 672-9985. Meets 1st Thurs./monthly, 7:30 p.m., Benjamin Wilson Sr. Cntr., Warminster, PA. Net on 147.69(-), 147.09(+), Wed. 8:30 p.m. and 28.450 Sun. 9 p.m. 5/97

RHODE ISLAND

South Coast Wireless Society. P.O. Box 1516, Westerly, RI 02891. Meets 4th Tue./monthly, 7:00 p.m., Pawcatuck Neighborhood Center. Info: Bill, KA1ZZR, (401) 596-5849. 6/97

TEXAS

Brazos Valley Amateur Radio Club, (B-VARC). P.O. Box 1630, Missouri City, TX 77459. Meets 2nd Thurs./monthly, 7:30 p.m., Sugar Land Community Ctr., 226 Matlage Way., 3 blks SW of Imperial Sugar Co. at HWY US-90A & Brooks St. (HWY 58) in Sugar Land, TX. Talk-in: 145.47(-), 442.5(+) rptrs. http://www.hal-pc.org/~bvarc 7/97

Brownsville ARC (CHARRO). Meets 2nd Tue./monthly, 7:00 p.m., Confederate Air Force Hangar, Brownsville Airport in TX. Coffee mtg. Sat./weekly, 10 a.m., Days Inn, Hwy 83 & Price Rd. Talk-in on 147.040(+). 1/98

VIRGINIA

Southern Peninsula Amateur Radio Klub, W4QR (SPARK). Meets 1st Tue./monthly Salvation Army Community Bldg., Hampton, VA. Repeaters 146.73(-), 449.55(-). VE Exam Info: (804) 898-8031, W4RTZ. 2/97

Virginia Beach ARC. Meets 1st Thurs./monthly (except July), 7:30 p.m., St. Andrews United Methodist Church, Tucson & Princess Anne Rds., Virginia Beach, VA 23462. 2/97

WASHINGTON

The Mike & Key Amateur Radio Club. Meets 3rd Sat./monthly, 10 a.m., Salvation Army Renton HQ., 720 Tobin St., Renton, WA. Talk-in on 146.82(-) rptr. Doors open at 9:30 a.m. 5/97

Skyvalley Amateur Radio Club, KC7LOC. Meets 3rd Sat./monthly, 8 a.m., Dutch Cup restaurant off Rt. 2 in Sultan, WA. Info: (360) 793-3433. 4/97

WEST VIRGINIA

Jackson County Amateur Radio Club. Meets 1st Thurs./monthly, 7:30 p.m., United Nat'l Bank of Ripley. Net Mon. 9 p.m. on 146.67(-) WD8JNU/R. For info: D. Tenant, N8ZYB, Rt. 1, Box 188, Mt. Alto, WV 25264. 6/97

Tri-State Amateur Radio Assn. Meets 3rd Tues./monthly, 7 p.m., The American Red Cross, 111 Veteran's Memorial Blvd., Huntington, WV. 5/97

WITH THE HANDI-HAMS

I did it! I got my ticket!

Rick Jorgenson, KBØQPY

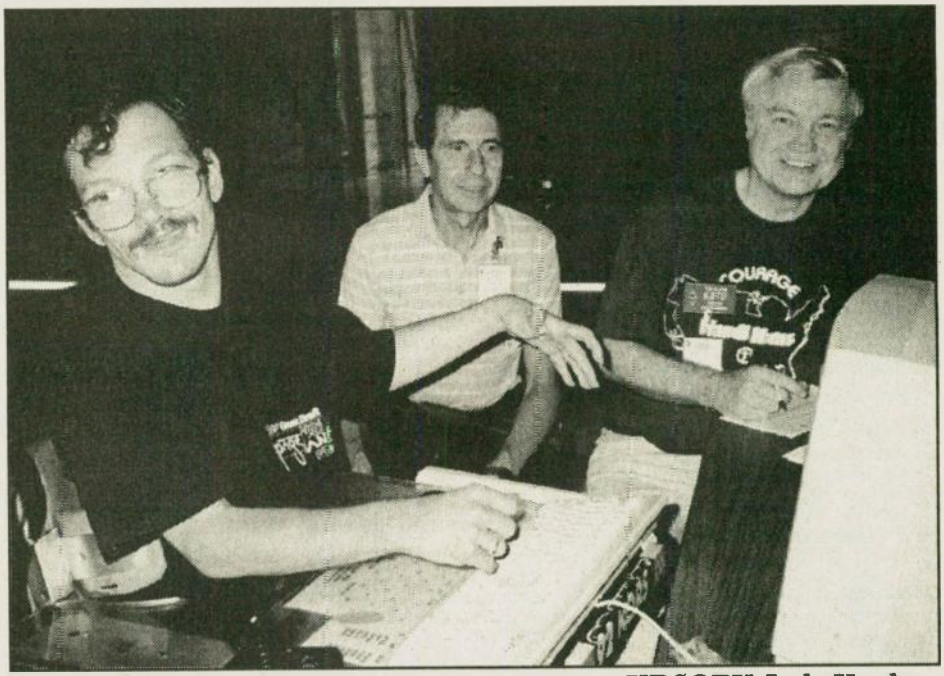
There was a little boy who lived in Worthington, Minnesota. He loved to take radios apart to see what was inside (boy, that sounds familiar!) and he wanted to get an Amateur Radio license so that he could talk to people all over the world. The only problem was that no one understood his true potential. Young Rick had cerebral palsy and people assumed that he couldn't learn like other kids. Here's Rick's story:

When I was a kid, I went to a special school for disabled children, and it was at that time that I first learned about radio . . . ham radio, and how you could get a license to operate a radio of your own. I was really interested in radio, and used to take transistor radios apart to see what they had inside. I knew another boy who was involved in ham radio and who had his own rig. He was taking ham radio classes at the high school, and he talked to his instructor about having a class at my school, Lakeview.

I registered for the class, but I ran into a problem that is very common for folks with disabilities: I couldn't get reliable transportation in the evenings, when the class was held. The school bus ran only from 7 a.m. to 4 p.m., and my stepfather had to work evenings. I felt bad about it, but I had to drop out.

For many years I was involved with other hobbies. Fishing, camping, and stamp collecting kept me pretty busy, and I even got into model cars and electric train collecting.

You know what? These hobbies just couldn't take the place of Amateur Radio! They just weren't challenging enough. In the meantime, I did what a lot of other kids do — I went to summer camp to get away from my parents. I went to both Camp Courage and Courage North. I believed that I was able to learn as well as the other children my age, but nobody gave me the chance to prove that I could equal my peers. At camp I met others who had the same frustrating problem back home.



Pictured from left to right: Rick Jorgenson, KBØQPY; Lyle Koeler, KØLR; and Tod Olson, KØTO.

In 1985 I decided to test at Minneapolis Community College and find out my educational level. I tested out at sixth grade level, so I got to work and began taking basic English and math courses. I soon got my GED and continued my education. Now I am enrolled at university.

With a more solid education, I felt like I had a shot at an Amateur Radio ticket. My education would help me to understand the theory. I knew about Courage Center programs from Camp Courage, so I decided to call the HANDI-HAM office at Courage Center. Sister Alverna, WAØSGJ, sent me an information packet and an application form. I signed up for classes and soon found out that my radio studies reinforced my college classes and helped me to learn practical math and science. I went back to Courage North and even Camp Joan Mier in California for the week-long HANDI-HAM Radio Workshops. The volunteer instructors were great, and I passed my exams. Now I am a General and am active on packet radio. I knew I could do it. I just needed a little more time and the right help. HANDI-HAM volunteers made the difference!

For more information about the Courage HANDI-HAM System, a non-profit organization dedicated to helping persons with physical disabilities and sensory impairments gain their Amateur Radio licenses, contact:

Courage HANDI-HAM System
3915 Golden Valley Road
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(612) 520-0515
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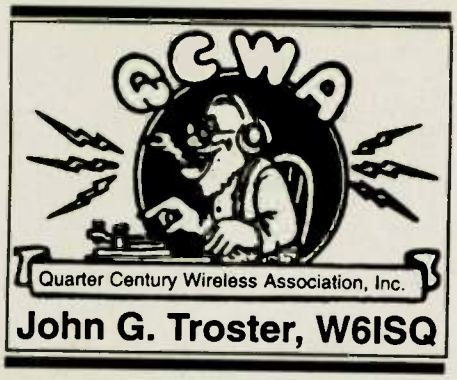


John G. Troster, W6ISQ

Golden Anniversary QSO Party

Our activities manager, J. Frederick Strom, K9BSL, has announced the rules governing QCWA's Banner Golden Anniversary QSO Party. This QSO Party is open to all, members of QCWA and non-members alike. There are to be two separate, but duplicate contests, with awards given in both. Here's what you need to know for each of the two separate contests:

• First Party

Begins, 8 February, 1400, UTC.
Ends, 10 February, 0600, UTC.

• Second Party

Begins, 8 March , 1400 UTC.
Ends, 10 March , 0600 UTC.

• Chose to operate CW, phone, or mixed.

• Submit your best 24 hours for each of the two 40-hour segments for scoring.

Scoring goes like this:

Contacts count one point each per band for all QSOs, members and non-members alike, except that contacts with QCWA HQ station W2MM (located in Eugene, OR) count 5 points per band.

Multipliers, members:

• Each QCWA Chapter counts as one multiplier

• Each QCWA "At Large" worked is one mult.

• For each non-member, count one mult for each state, province or country worked.

• Contact with W2MM counts as 3 mults.

Multipliers, non-members:

• Same as above except no points for working other non-members.

Total Score:

• Total points times number of mults for your best 24 hours within each 40 hour segment.

Exchange, members:

• Call, two digit number of year first licensed, chapter number if you are a member of a chapter, Send "AL," if not a chapter member, plus your state, province or country.

Exchange, non-members:

• Same as above, except do not send a chapter number or AL. Do send state, province or country.

Awards for each of the two party sessions: Certificate to the five (5) top members and top 5 non-members.

• Certificate to the chapter with the highest combined members scores.

J. Frederick Strom, K9BSL, activities manager

Radio activities began at an early age for Fred, a native of Laketon, in central Indiana. In third grade, he began building radios; that is, he found a radio tube, then cut a hole in a cigar box and stuck the tube therein, and voila, a radio for young Fred. Actually, he didn't know anyone who was building radios and indeed, much less a radio amateur, until he got out of the service in WWII .

After sixth grade, Fred's family moved to Royerston, IN where Fred finished off high school. In junior high school he got his first kit radio, the always-dependable mail order Allied Radio kit, calling for a pair of 76s. Of course, he soldered it together with a 100 watt (or larger) iron, threw a wire out the window and became a BCL. In high school, he learned the art of scrounging parts from old radios and began building super-regen BC radios all by himself, not having met anyone else in school who was interested or any radio amateurs either.

Then came WWII and Fred, just out of high school, enlisted in the navy. Off he went to Great Lakes for training and subsequent assignment as a hospital corpsman. He didn't attend corpsman training because, while in high school, he had worked several years as an orderly in a local hospital. He was assigned to a Marine Corps howitzer battalion just in time for the Okinawa campaign. He was still in Okinawa when the war ended. He reverted to his old ways and began scrounging radio parts, mostly Japanese, to build radios. He recalls his first one as being a 6J7 and 6C5 regenerative rig operating off a battery.

Back home, and remaining in the Navy Reserve, Fred began college at Ball State in Muncie, IN. Simultaneously he began bootlegging on 2 Meters with a pair of 76s, that is, in short, a modulated oscillator. It was only then that he began meeting amateurs who informed him it would be better to get a license. He went QRT for the next few years to

finish college with a chemistry major, graduating with the class of 1950 and marrying Jackie immediately thereafter on June 25, 1950, the same day the Korean War began. The navy promptly called in his Reserve marker, and it was back to the Great Lakes for the duration. This time, sporting a degree in chemistry, Fred was put to work in Naval Medical Research where influenza vaccine was being developed. That same vaccine is the basis for that which is now in use.

Following Korea, Fred went to

J. Frederick Strom, K9BSL

work for Borg Warner in Muncie, Indiana as a chemist analyzing steel materials to see they checked with the mill's specifications. It was at this time that Fred made the fateful decision to get his ham ticket. Again, the loner, he learned the code by himself with an assist from W1AW and the ham bands he received on his BC-348. He still has that first call, K9BSL. Of course he got on the air fast, but this time he moved up to 6 Meters and went looking for WAS. Over time, he upgraded his 6-meter lash-up to 750 watts to a pair of 100THs modulated by a pair of 809s, and received on a 183D with a crystal controlled converter. After five years in Muncie, Fred joined the industrial sales staff of Sinclair Oil and moved to Bedford, IN. There he discovered the HF portion of the amateur bands, and procured a 51J4 RX and BC-610 transmitter feeding a 75 Meter center fed zepp, the same antenna he still uses today in Florida.

Being a salesman, he traveled all week and got home only on weekends. That, as we all know, makes a dent in ham radio activities. He did, however, manage to check into the Indiana phone net when home. One more move to LaPorte, IN, where he re-established his amateur operations and became interested in 75 Meters.

Fred retired in January, 1981, and he and his family moved to St. Petersburg, FL. Now he had time to put up a KT-34A HF beam and once again strung the center fed zepp. This time, with a great location close to the ocean, he went in for DXing with a Yaesu 1000 and Collins 30L1 final. In 1986, he joined QCWA, serving as president of his local chapter several times. He's held all the other offices in the chapter too! Just for fun, he also owns the QCWA two-meter repeater for the Greater St. Pete area. If you are down that way, check into K9BSL repeater.

Always the man of action and service, he enthusiastically participates in the affairs of the local Shriners and Scottish Rites organizations. YF Jackie, is equally as active in those complementing woman's branches. The Stroms have two daughters. Carla Jane is married to an army sergeant, and lives in Panama. Cordia Ann is Chief Counsel of the Judicial Committee for Immigration, of the House of Representatives, in Washington. All immigration bills in Congress come from her office. Quite a timely responsibility!

Fred is chief net control for the QCWA Sunday Net on 14.347 and, would like to have you check in at some point. He would also like to present you with a large beautiful certificate, suitable for framing for your shack wall — IF — you will volunteer to be net control now and then!! He needs help.

We're all appreciative of Fred, our very active activities manager who gives unstintingly with good comradeship, efficiency and skill, unselfishly putting something back to QCWA which he has enjoyed for these many years. Understandably we're proud to claim Fred Strom, K9BSL, as One of Us, the Many, the Proud, the Elite, the Serving, the QCWA.

Until the next one, 73+25 Jack, W6ISQ WR

Computers & Basic Stuff

C.H. Stewart, KD5DL
P.O. Box 181
Duncan, OK 73534

BASIC Patterns

Several years ago, when I first started writing for ***Worldradio,*** I submitted an article about how to make antenna-bearing maps. Included was a BASIC program that permitted the use of a regular Mercator map to draw "great circle" antenna bearings to the rest of the world.

A Mercator map is a map that has the lines of latitude drawn parallel to each other, and crossing them are parallel lines of longitude. On a sphere, however, longitudinal lines are not parallel. They converge at the poles.

But it's a lot easier for cartographers to make flat maps of our round planet, and Mercator maps are most frequently used to depict the world we live on.

Trouble is, a straight line on a Mercator map is not always the shortest distance between two points. If the two points are close together then there usually isn't too much of a problem. If the points are a world apart, however, the error is obvious.

Take the example of finding the direction to Calcutta, India, from a QTH in the central United States. On a typical Mercator map the straight-line direction appears to be a little south of due east, or about 95 degrees from north.

In actuality the direction to Calcutta is closer to due north. If you don't believe it, check this out: Using a globe, stretch a string from the mid-US to India, and you'll see that the shortest length of string that will fit between the two crosses very close to the North Pole. Going "around" the globe, in an easterly direction, requires a much longer piece of string.

That early program, called "Great Circles," is in the September, 1991, issue of ***Worldradio.***

A map that depicts great circles from a known center location is called an "azimuthal equidistant projection." The center of an az map, as it's sometimes called, is a specific point on the earth's surface, and all other features of the map are shown in their true directions and distances from that one point.

If you have an *ARRL Handbook* look in the chapter on Direction Finding and you will find an az map centered on Wichita, Kansas. Notice that Calcutta is shown as being almost due north.

Now look in an *ARRL Antenna Book* in the Radio Wave Propagation chapter. Another, different az map is shown, with its center at Newington, Connecticut. The direction to Calcutta now appears to be about 40 degrees east of north. That's about a 40-degree difference between the two maps!

A BASIC program listing for making az maps would be too long for the editors to want to publish it, and for most people to take the time to type it into their computers.

So I did the next best thing. I presented a relatively short BASIC program that could be used to show great circle directions on easily-available Mercator maps. The 1991 article explained how to bend straight bearings into curves to fit the map's distortion of our earth.

Actually, I thought my program was better than an azimuthal listing, since it also presented a way in which you could tell a DX in what direction your station was from his! That's something a real azimuthal map cannot do.

There is now a do-it-yourself az map on the Internet. Two Maryland amateurs, Joseph P. Mack, NA3T, and Michael Katzmann, NV3Z, call it the Az-Proj on-line map creation program. Check it out at http://www.xray.duke.edu:1080/

```
 10 CLS: PRINT "ANTPAT.BAS, BY KD5DL, 2/97": PRINT
 20 PRINT: X=5: INPUT "ANTENNA HEIGHT (FT) "; H
 30 PRINT: INPUT "FREQUENCY (MHz) ";F: PRINT
 40 PRINT "ANGLE  REL. STRENGTH"
 50 D=985/F: E=H/D*360: K=3.1415926/180
 60 FOR A= 0 TO 90 STEP 1
 70 B=ABS (2*SIN (K*E*SIN (K*A)))
 80 PRINT USING "  ###.#  ##.####";A,B: X=X+1
 90 IF X=22 THEN X=0: INPUT " PRESS [ENTER]",A$
100 IF A$< >"" then X=1
110 NEXT A
120 PRINT: INPUT "  DO ANOTHER ";B$
130 IF B$="Y" THEN X=5: A$="": GOTO 30
140 END
```

Figure 1.

Another kind of map

One of the reasons I like investigating antenna phenomena is that some of my earliest mistakes as a newly-licensed amateur had to do with the common misunderstandings about antenna performance and propagation.

I had heard so much about the importance of matching SWR one-to-one that I thought I was doing myself a favor by putting my first antenna up only .15-wavelength high. After all, the *ARRL Antenna Book* had a chart showing that a dipole erected that high has an impedance of about 50 ohms.

Therefore, I thought, if I used 50-ohm coax to feed a 50-ohm antenna from a 50-ohm rig, I would have a

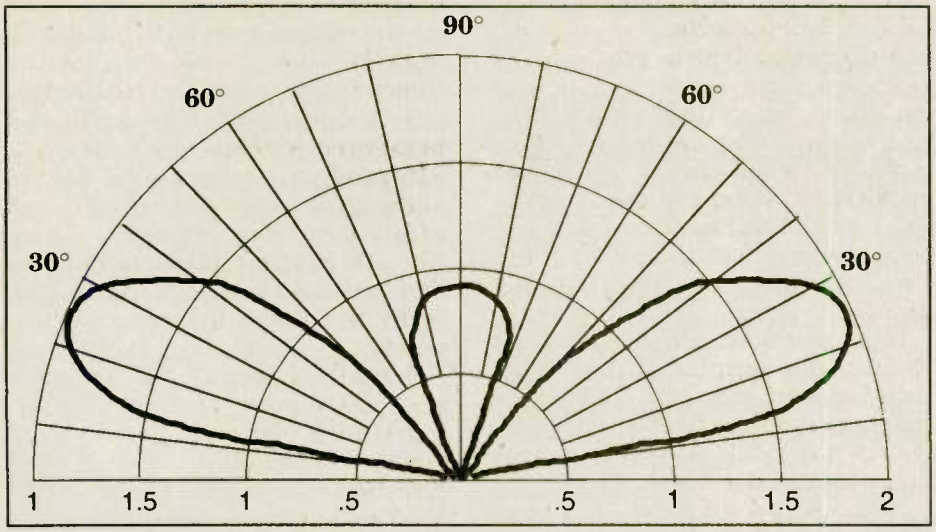


Figure 2. How to do it — use a compass, protractor and ruler to make graphs like the one shown above, which shows the radiation pattern of a 14.2 MHz dipole 40 feet above ground.

perfect 1:1 SWR match. It couldn't get any better than that, or so I thought. It was about as smart as trying to work DX with a code practice oscillator.

Now I know that SWR has so little to do with antenna performance that I almost always ignore it as a performance parameter. What I'm more interested in now is how antennas radiate and where the radiation goes.

Recently I discovered a simple formula that does the second part — it maps the radiation pattern of horizontal dipoles above the ground. The formula is a simple derivation of the one used to plot the patterns in Chapter 3 of *The ARRL Antenna Book*. The original formula determines a dipole's pattern based on the degree of the ground's electrical reflectivity, the mutual impedances between the real dipole and its image, and the phase relationships between them at various reflection angles.

For our purposes we can ignore the mutual impedances and phase relationships and still make a fairly reliable map of radiation patterns. There is so little difference between a pattern over perfect ground and one over real ground that even in the worst cases it may only differ by one or two degrees.

Try the program as shown in Figure 1.

D in line 50 is the wavelength, in feet, of frequency F, and E then becomes antenna height in electrical degrees. K is the factor to convert BASIC's radian routines to degrees.

Line 60 selects angles from 0 (the horizon) through 90 (overhead) for line 70 to use and for line 80 to print.

Nothing is sacred about line 60 — you can even change the angles in range A and the STEP rate between them. For instance, if you want to see relative pattern strengths for every tenth of a degree between 27 and 33 degrees you can reenter the line as: 60 FOR A= to 33 STEP 0.1.

Line 70 computes the pattern as a field relative to the same antenna in free space. B is twice the relative free-space value where field strengths are reinforced completely, and B is zero where phases cancel each other.

Of course, since this only happens over a perfectly reflective ground, dipoles over real ground will show slightly lower maximum strengths and slightly greater minimum strengths. The relative pattern directions, however, agree surprisingly well with other pattern modeling programs.

The easiest way to plot the patterns is to make a graph similar to the one illustrated (see Figure 2). Use a compass to make the arcs, a protractor to plot the angles and a ruler or other scale to measure distances from the graph's center.

An easy-to-type program and a pad of paper is all it takes to plot your existing dipole's pattern, or patterns for dipoles you're contemplating putting up. You can even speak with authority the next time the subject of antenna patterns comes up.

I'm afraid that's it for now. So, until next time, stay radio active! WR

10-10 INTERNATIONAL News

Chuck Imsande, W6YLJ
10-10 19636

New directors take over

Five new directors took office on 1 January, 1997, and will serve 10-10 for the next four years. These directors have pledged to work toward moving 10-10 into the 21st century and keeping 10-10 abreast with development in electronic technology. The new directors are Garry Cameron, VE7ACM, #30939, of Port Alberni, B.C., Canada, Mike Elliott, KF7ZQ, #54625, of Boise, Idaho, Dick Russell, KJ5VV, #62500, of Midwest City, OK, Tom Michael, NØMT #55241 of Lincoln, Nebraska, and Joe Williams, WA9TSG, #310, of Milwaukee, Wisconsin. Ten-Ten has a total of ten directors, who serve four-year terms. Every two years, five directors stand for election, which provides a smooth transition.

10-10 Convention

Rex Holford, ABØBC, #20423, convention chairman, states the upcoming 10-10 convention is taking shape as final plans and arrangements are being made. The convention dates are 10-13 July, 1997, and the place is the Ramada Inn in Council Bluffs, Iowa. A convention package with all information, including a pre-registration application is available from Tom Henderson, K4CIH, #33233, at 4901 15th Place East, Tuscaloosa, AL 35404.

The convention is be dedicated to our volunteer managers and those in attendance will receive special recognition. The pre-registration prize will be a Kenwood TS-50S HF transceiver, and will be available only to those who pre-register before 1 June 1997. It is suggested you get your pre-registration in as soon as possible.

Contest rules revision for 1997

The Contest Committee has reviewed the 10-10 Contest Rules, which have been in existence for a number of years, and have established a revised set of rules to be effective for the four scheduled annual contests beginning in 1997. Rules for the 10-10 special October Sprint are published in *The 10-10 International News.*

The major changes are that logs may be submitted for: Individual, QRP, or Club. In all categories you may assign your score to your appropriate chapter. Scoring has also been changed by adding a *multiplier* to your score. You will now multiply your total score by the number of legitimate prefixes worked. For example, K1, W1, KA1, XE2, JA6 count as 5 multipliers.

The contest committee, under contest manager Don Zielinski, KØPV #9902, believe that the new rules and scoring will make the 10-10 contests more challenging and interesting. For a complete set of the new 1997 contest rules, send an SASE (#10 size envelope) to: Don Zielinski, KØPV #9902, 10-10 Contest Manager, P.O. Box DX, Genoa, CO 80818-0119.

Next contest

The next 10-10 contest will be held on the weekend of 1-2 February, 1997. This phone contest will begin at 0000Z on 1 February and conclude at 2400Z on 2 February. You do not need be an active member, that is, a dues paid up member, to participate. As a matter of fact you do not need to be a member at all to participate, as all amateurs are welcome to make contacts with 10-10 members during 10-10 contests; but only active members are eligible for awards. Contacts may be used by active members to upgrade their awards, and contacts by non-members may be used for collecting the 10 required numbers to become a 10-10 member. All members are reminded that 10-10 contest rules recommend that as a courtesy to those who do not desire to be involved in contesting, observe a "quiet zone" between 28.490 and 28.510 MHz.

Latest list of the top ten

Allen Mattis, N5AFV, #27571, bar awards manager, has released the latest list of the top ten members and their total 10-10 contacts. As you will note by the number of 10-10 members contacted by the top ten, there are contacts to be made, but remember these numbers have been accumulated over a number of years. Robert, WA5JDU, #3017, has made contact with approximately 35% of all 10-10 numbers issued. A remarkable accomplishment!

Call	10-10#	contacts
WA5JDU	3017	23,200
WØRWC	518	19,400
WB1DBZ	26001	18,600
PJ2WG	27999	17,000
K5MRU	218	16,500
W4WKQ	33299	16,100
WB7NUU	17416	11,800
WA9LIC	1599	11,600
KØPV	9902	11,500
N5CUQ	40	11,400

W6OI on the air

Louise Chapman, N6ELK, #36654, is the designated 10-10 net control operator for W6OI, the 10-10 club station, each Wednesday beginning at 1800Z on 28.800 MHz. If you work W6OI, #109, and would like a QSL card, send an SASE to N6ELK, 3210 Clark Ave., Long Beach, CA 90808.

A young SK

It is with sorrow that we report that one of our young ham 10-10 members, Matt Murphy, KBØJEN #59322, became a Silent Key on 31 October 1996, in an automobile accident. Matt received his Novice license at the age of 11, and was involved in several 10-10 chapters. He was featured in the April, 1994, *10-10 News*. Matt had just celebrated his 16th birthday.

New chapter coordinator

Ed Redwine, K5ERJ, #11843, director and chairman of the operations committee has announced that Dave Smith, WB6RDK, #65812, has been appointed the new 10-10 chapter coordinator. Dave assumed the duties of chapter coordinator on 1 January 1997, and replaces Dave McCardell, WD4EWB, #18760, who found it necessary to resign his volunteer position.

We thank Dave McCardell for his time and effort in keeping the 10-10 chapter program in order. All chapter questions and information requests should be directed to Dave Smith, WB6RDK, #65812, at 1349 Vernon Terrace, San Mateo, CA 94402-3331.

10-10 Scholarships

Again this year 10-10 will sponsor three $1,000 scholarships. The 10-10 scholarships will be administered by the Foundation for Amateur Radio, a non-profit organization, who will administer approximately sixty scholarships for the academic year 1997-1998 to licensed radio amateurs. Licensed radio amateurs may compete for the 10-10 scholarships if they plan to pursue a full-time course of studies at an accredited university, college or technical school. Additional information and an application may be requested by letter or QSL card, postmarked prior to 30 April 1997, from: FAR Scholarships, 6903 Rhode Island Avenue, College Park, MD 20740.

Give a gift that will be enjoyed all year long . . . ***Worldradio***

Information about 10-10?

If you would like information about 10-10 and how you can become a member and receive your own unique 10-10 number, send $1 plus two first class stamps and an address label for the return of your information package to: Mike Elliott, KF7ZQ #54625, 10-10 Information Manager, 9832 Gurdon Court, Boise, ID 83704-4080. No SASEs please, as the information package requires a 9 x 12 envelope. You will receive a copy of the 8-page prospective new member brochure which contains everything you want to know about the 10-10 organization, a listing of all 10-10 chapters, their day, time and frequency of net operation and an application form. Also enclosed will be a copy of the latest issue of *The 10-10 International News*, the 32 page, 10-10 quarterly magazine.

If you have lost, or forgotten, your 10-10 number, send the same as above to Mike and you will get the information package along with your original 10-10 number.

If your membership in 10-10 has expired and you would like to renew your dues, send your dues ($10 per year) to: 10-10 International Net, Inc., 643 N. 98th Street #142, Omaha, NE 68114-2332. You will become an active member again and receive all of the benefits of 10-10 including the quarterly *10-10 International News*. Remember 10-10 numbers are issued for life and your originally issued number is always yours. WR

Richard Fisher, KI6SN
1940 Wetherly St., Riverside, CA 92506
e-mail: KI6SN@aol.com

A KC-2, Too

With the glut of excellent QRP transceivers available today, it's no wonder that designers' attention seems to be focusing more than ever on station accessories — the things that can make a good radio even better.

It wasn't too long ago that Wayne Burdick, N6KR of Belmont, California introduced the KC-1 displayless memory keyer and frequency counter, produced commercially by Los Altos, California-based Wilderness Radio, and reviewed here in April 1996.

Many of us were in awe that such a small circuit board could perform so many neat tricks. The kits have become a natural appendage to Wilderness' NorCal-40A transceiver and just about every other QRP transceiver on the market.

Now comes the sequel: the Wilderness Radio KC-2. This four-digit LCD frequency counter, digital wattmeter, bar graph S-meter and keyer is a quintessential example of the adage about "good things" and "small packages." In this case, it's all found on two PC boards measuring about 3" x 1" each, and stacked to a depth of just eight-tenths of an inch. It draws only 7 milliamperes of current and takes the technology of the KC-1 to new frontiers.

Veteran QRPer and avid homebrewer Cam Hartford, N6GA, of Claremont, California, recently built the Wilderness Radio KC-2 kit and added it to his NorCal Sierra multi-band QRP transceiver. He had high expectations, and wasn't disappointed.

"My original NorCal Sierra has served well for the two years I've had it," Cam writes. "It has traveled far and wide, been used in severe conditions, and survived the rigors of the backpack life. As time has passed, it has also survived my efforts to modify and improve it."

Having changed the audio circuit, AGC circuit, keying and QSK circuits, and built-in other features, including a homebrewed ABX circuit, Cam said he was ready to add an S-meter/power meter.

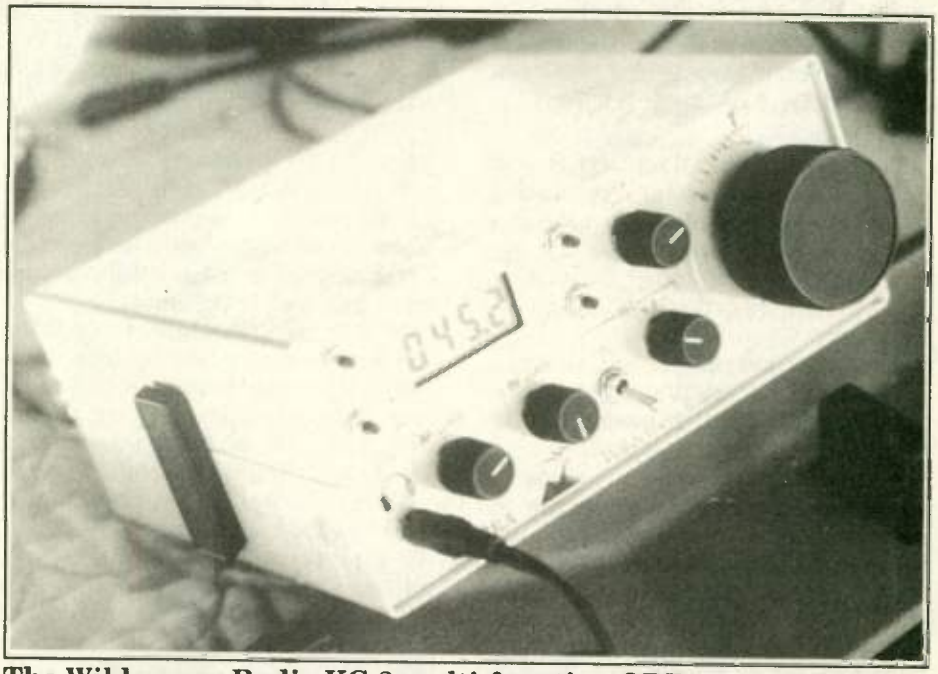
"I put off doing this last modification for a long time because it required a rectangular hole to mount the meter. Cutting a rectangular hole and making it look good was a big challenge for me. I finally bit the bullet, took a deep breath, took drill and file to my front panel, and dove in.

"The next day (N6KR) announced the new KC-2. Rats! I knew I had to have one, and I also knew there was no chance it would fit the new hole I had just finished cutting. I punted and ordered a new Wilderness Sierra front panel to go with the KC-2. My original brushed aluminum NorCal box has a pretty new Wilderness face. A nice royal blue paint job could make it pass for an original.

"The KC-2 goes together easily. The usually well-written Wilderness manual makes it a breeze," Cam writes, adding that he was careful to discharge static electricity from himself each time he sat down to work on the kit. "Those exotic and delicate chips were nothing I wanted to fry. As soon as I had the boards soldered together, I applied power just to make sure it was behaving. The digits came to life as advertised.

"Building it is the easy part. Getting it wired into the radio is something else. When you consider all the things it does, the need for all those wires becomes apparent. Keyer paddle jack, key line, VFO, audio for S-meter, RF for power meter, signal from band module to determine where to start counting, not to mention V+ and ground all have to cabled into it. But slowly they got wired, and now it plays flawlessly.

"It's fun to run the dial up and down the band and watch the display try to keep up. The digits are large and very readable from most viewing angles. The keyer in Mode B feels right, and having a memory is a real luxury. I like old fashioned knobs to adjust things like keyer speed, so I wasn't sure how I'd get along with the push-button speed control, or its 2 wpm increments. But I'm getting used to it, and by the time you read this, I'll probably be a full convert. The S-meter takes some getting used to at first, but I



The Wilderness Radio KC-2 multi-function QRP accessory's digital display finds a home on the front panel of the NorCal Sierra transceiver at N6GA.

guess I'm just an analog kind of guy trying to get along in a digital world.

"I took the Sierra (with newly-installed KC-2) out to the swap meet, and my traveling companions got tired of stopping to watch while I hauled it out to show off to passing QRPers. It got rave reviews even in its un-powered state, and even drew admiring looks from some QRO types.

Thanks in large part to the KC-2, Cam writes, his Sierra "just keeps getting better."

The Wilderness KC-2 kit is $75, plus shipping. To order, for more information, or to request a catalog, write: Wilderness Radio, P.O. Box 734, Los Altos, CA 94023-0734, or call 415/494-3806.

FYBO Winter QRP Field Day

The Arizona ScQRPions QRP club is putting a new twist on an old contest idea this month by sponsoring the FYBO (Freeze Your B____ Off) Winter QRP Field Day from 1700Z on 22 February to 0500Z, 23 February.

To reward operators "who venture into the great outdoors (or those with unheated ham shacks), we've added a temperature multiplier," writes ScQRPion Joe Gervais, KC7NEV. "Stick a thermometer by your keyer, and there you have it." Operators who stay indoors must report the indoor temperature at their operating position.

The club issues this cardinal rule, however, when it comes to winter outdoor operations in chilly environs: "SAFETY FIRST! Please respect the weather and your own limitations."

FYBO operators are being encouraged to listen for contesters on standard HF QRP frequencies, both phone and CW, (no WARC band operation, however). For Novice band operations, work 3.710, 7.110, 21.110, and 28.110 MHz. Work stations once per band.

The contest exchange, in addition to the usual RS(T), state/province/DXCC country and power output, includes the temperature (in Fahrenheit) at the operator's position. Example: "RST 579 AZ 2W 58F." Novices sign with /N; Technicians sign with /T.

Contacts with US Novices and Technicians are worth 5 points. Contacts made in the US Novice portion of the bands with General class or higher amateurs are awarded 2 points per QSO. Contacts outside the Novice portions of the band are worth 1 point each. For example, W6SU (Extra) completes a QSO with WN1DWL (Novice). W6SU gets 5 points. WN1DWL gets 2 points.

Multipliers include:

- States/provinces/DXCC countries
- Field location = x 4
- Alternative power source (battery/solar/wind/etc.) = x 2
- QRPp (less than 1 watt) = x 2
- Lowest temperature recorded at the operator's position while on the air. Remember, indoor stations must use indoor temperature. Thermometer readings get the following multipliers: 60+ F = x 1; 50-59 F = x 2; 40-49 F = x 3; 30-39 F = x 4; 20-29 F = x 5; below 20 F = x 6.

Final score is computed by multiplying your QSO points by your multipliers. Entries can be made in two classes: single operator and multi-operator (using a single transceiver).

Awards will be given for: Lowest operating temperature; most Novice/Technician stations worked; highest score (single operator, multi operator, Novice/Technician).

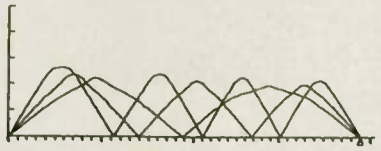
In addition, a random drawing for a new Ten-Tec QRP transceiver kit will be held for operators submitting logs with at least five QSOs with US or Canadian amateurs. If you would like a certificate for your FYBO Winter QRP Field Day participation, send a 9 x 12 SASE with your log.

Your entry should include your call sign, operator(s), power, equipment used, number of Novice/Tech stations worked, and lowest operating temperature at the operator's position while on the air.

Send logs by 21 March to: Joe Gervais, KC7NEV, P.O. Box 1822, Goodyear, AZ 85338.

For more information, send e-mail to: vole@primenet.com or see the full announcement at http://www.dancris.com/~ki7mn/fyborule.html. WR

Propagation



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Last month I made two predictions for the end of Cycle 22. One prediction used the averages of all the previous cycles, and the other prediction used a match to a similar cycle. In the end, neither of the two predictions appeared to be satisfactory. So something better is needed.

In his December column, NM7M presented an equation to estimate the SSN (smoothed sunspot number) of a future month by using the SSN of a known month, the slope of the changing SSN, and the curvature of the changing slope. This indeed is a better method, but is restricted to predictions a few months ahead, as the slope and curvature change quite a bit in the course of a cycle. It might be a good method for predicting the end of Cycle 22, but it couldn't be counted on for a Cycle 23 prediction.

My two predictions and NM7M's equation are based on data observed from previous cycles, and fall into one general category of sunspot cycle predictions known as the statistical method. Another general category of sunspot cycle predictions is based on the fact that a new cycle actually starts before the end of the old cycle, and these are known as the precursor method. This method appears to have the most favor in the scientific community. A third category attempts to define sunspot cycles based on the position of the planets, and is known as the planetary method. For an in-depth discussion of these various prediction methods, see Chapter 3 of *The NEW Shortwave Propagation Handbook* by Jacobs (W3ASK), Cohen (N4XX), and Rose (K6GKU).

Where do all these methods leave us? Regardless of which method, we are left with much uncertainty. This uncertainty of course decreases as the prediction interval becomes shorter. Since we're pretty close to the end of Cycle 22, some of the more elaborate prediction methods should give us a good estimate of the end. Let's look at one such prediction for the end of Cycle 22 from one of the scientific communities.

To do this, we'll do some surfing on the World Wide Web. See Table 1. This prediction for the end of Cycle 22 comes from the National Oceanic and Atmospheric Administration (NOAA).

As can be seen, the minimum between Cycle 22 and Cycle 23 was predicted to occur in the November/December 1996 time frame. From last month's equation for calculating smoothed sunspot numbers, we really won't know if this was a good prediction until at least mid-1997. We'll just have to patiently wait and see.

A couple words about Cycle 23 sunspots are in order with respect to how they relate to the minimum between cycles. Back in mid-1995, three sunspot groups appeared that were thought to be the first spots of Cycle 23. After some careful analysis, they were classified as Cycle 22 spots. But about a year later, in May of 1996, two sunspot groups appeared that were analyzed and subsequently classified as the first spots of Cycle 23. Typically, the minimum does not occur until at least 12 months following the appearance of the first spot group of the new cycle. This suggests the November/December 1996 time frame predicted by NOAA may be too early.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1996	10.5	9.3	8.4	8.0	7.6	7.1	6.8	6.5	6.1	5.8	5.5	5.5
1997	5.8	6.3	7.0	7.7	8.4	9.5						

Figure 1. NOAA's prediction for the end of Cycle 22.

Before leaving the discussion of the end of Cycle 22 (it's about time, I'm sure you're saying), note that the actual minimum is predicted to be of a rather short duration — a couple months, in fact. I should point out that some cycles have reached a minimum and have stayed there for quite awhile. For example, the last two minimums (between Cycle 20 and 21 and between Cycle 21 and 22) essentially remained at a constant low SSN value for almost a year. What we certainly don't need is something like what appears to have happened between Cycle 5 and 6 — the SSN stayed below 5 for 3 years!

With a prediction in hand for the end of Cycle 22, let's now see what we can do about a prediction for Cycle 23. Rather than me trying to make a prediction (remember I'm batting 0 for 2 already), I'll very briefly summarize the predictions that have appeared in the technical literature.

These predictions of Cycle 23 clearly show how uncertain this endeavor is. The predictions of when the peak will occur range all the way from 1999 to 2006. The predictions of the peak SSN range all the way from the mid-70s to above 200. With predictions like this, the only

thing certain is that there will be a Cycle 23. See the references at the end of Chapter 3 of *The NEW Shortwave Propagation Handbook* for more details on the various Cycle 23 predictions.

Before closing this month's column, I'd like to show where all this sunspot data comes from in case you'd like to get in a little deeper. It's all on the National Geophysical Data Center (NGDC) web site at

gopher://gopher.ngdc.noaa.gov/

When you get to that site, select "NGDC Public Data and Data Access Tools," then select "Solar Terrestrial Physics." The two choices we're interested in at the moment are

GEOMAGNETIC-DATA
SOLAR-DATA

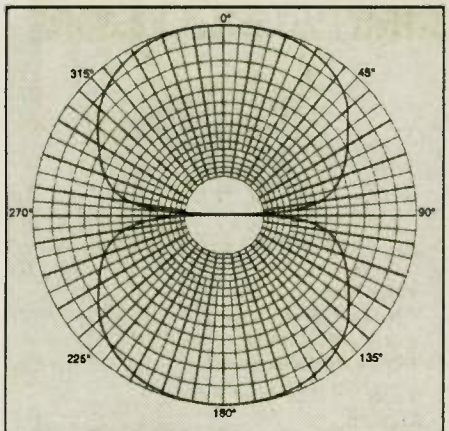
For the NOAA prediction presented earlier, select "SOLAR-DATA," then select "SUNSPOT-NUMBERS," then select "sunspot. predict." What you'll see is the SSN for each month beginning with September, 1986 (when Cycle 22 officially started) and ending with predictions through December, 1997. It may be worthwhile to check this site at the time you're reading this, as it may have been updated from the time I wrote this.

For smoothed monthly mean sunspot numbers (remember the equation in last month's column?), select "SOLAR-DATA," then select "SUNSPOT-NUMBERS," then select "smoothed." This will give the SSN for each month from July of 1749, to the most recent month (January of 1996 at the time of this writing). This data is also in Chapter 2 of *The NEW Shortwave Propagation Handbook.*

For monthly mean sunspot numbers (used to calculate SSN), select "SOLAR-DATA," then select "SUNSPOT-NUMBERS," then select "monthly." This will give the monthly mean for each month from January of 1749, to the most recent month (July of 1996 at the time of this writing). If you'd like to give your calculator some exercise, pick a month and year and calculate the SSN using the data at this monthly mean site. It should agree with the SSN in the smoothed site.

For daily sunspot data, select "GEOMAGNETIC-DATA," then select "INDICES," then select "KP-AP," then select a year. This gives the daily sunspot number for the entire year from 1932 through 1995, with 1996 updates ongoing. For some real fun, pick a month of any year and calculate the monthly mean — it should agree with the monthly mean site. In addition to the daily sunspot count, data is given for Kp of each of the eight three-hour intervals, Ap for the day, 10.7cm solar flux, and several other pertinent indices.

That's it for this month. There's a lot of data at the web sites referenced above, so have fun browsing. Next month I'll look at earth-ionosphere geometry to see how hop distance and MUF vary with layer height. WR



AERIALS

Kurt N. Sterba

Is this a joke? I, Kurt N. Sterba, one of the premiere contest operators of the western world am going to go into the top DX contest (*CQ's* WWSSB) with a seven-foot antenna?

It all came about when ***Worldradio*** was sent an antenna for a product review. Naturally, and quite logically so, it was then sent to me. This is the two pound Antronic antenna from South Africa that is distributed in the US by Palomar Engineers.

The number one step in checking an antenna (for accurate results) is to first test the feedline. So 100W was fed into a dummy load and measured with a Bird Wattmeter. Next, the power at the end of 100 feet of the coax was measured. It was 82W, a loss of .86 dB which is just what the book calls for. If the cable had a loss of 1 dB an SWR of 1.5 (at the feedline antenna junction) would read 1.3 at the transmitter. A 2 dB loss means that an SWR of 3 would read 2 at the transmitter. It keeps spiraling up to where an 8 dB loss would have an SWR of 10 reading 2 at the transmitter end.

For those who may not have access to this material we present power at the end of a cable and the associated dB loss (100W input).

95W	.22 dB	70	1.55
90	.45	65	1.87
85	.70	60	2.22
80	.97	55	2.60
75	1.25	50	3.01

Three dB is half an "S"-unit. Next, the antenna was checked with the Autek Analyst with these results for SWR and impedance.

14.00	1.8	32	14.20	1.0	49
14.05	1.6	35	14.25	1.2	51
14.10	1.3	39	14.30	1.4	52
14.15	1.1	45	14.35	1.6	49

With the Autek SWR Meter the following readings were observed.

14.000	1.6	14.200	1.1
14.050	1.4	14.250	1.1
14.100	1.3	14.300	1.2
14.150	1.2	14.350	1.4

For those who don't believe anything unless they see it on a Bird Wattmeter, the following are reverse power readings on the 50W slug with power maintained at 100W forward on the 100W slug.

14.000	9	14.200	0.25
14.050	6	14.250	0.75
14.100	3	14.300	1.0
14.150	1.5	14.350	2.0

Now let's go to my particular favorite, the Palomar Engineer's Power/SWR meter that features a stack of vertical bar lights with associated values printed on the case. On the right side of the meter are the power level lights and on the left are the SWR lights. A frequency sweep of the 20M band resulted in the following lighted bar lights.

	A	B
14.000	7	6
14.050	5	4
14.100	3	3
14.150	2	1
14.200	1	2
14.250	2	3
14.300	3	4
14.350	5	6

"B" — Angles of 2 of the 4 radials were lowered from positions that resulted in the "A" readings.

So, let's see what the lights are really telling us. I tested the Palomar meter with four different dummy loads. First is the measured DC resistance of each load. Then the calculated SWR and the number of lights illuminated.

62.6	1.252	3
58.1	1.162	2
53.1	1.062	1
52.0	1.040	0

The ohmmeter was tested with a 49.9 ohm, 1% resistor. It read 49.5, which was within 1%. (49.4 to 50.4)

So we see that the ultra-sensitive

Palomar meter is really digging down.

Before we get all too carried away with all this I'd like to comment on something that you may have recently read in a book. The authors mentioned that they work for a government agency and "therefore have access to instruments and computing facilities not available to the average radio amateur." To which I say "rooty-toot-toot." So the taxpaying average radio amateur gets to fund the author's playing. Next, it hardly matters anyway. Before anyone throws away the next year's house payments on some highly accurate measuring equipment feeling that will move them up three places in the pileup for Tanzania, allow me to point something out. Our amateur stuff with five percent or so accuracy is just fine. Remember that it takes a 21% drop in power to get to a point (1 dB) that practically nobody can hear the difference. So how much accuracy do you really need or can you use?

On to the antenna and its performance. This antenna is basically a mobile antenna but is proving attractive to those who are "neighborhood challenged" and are looking for a "stealth" antenna to hide from those who are pained if they believe that anyone else is enjoying themselves. The antenna covers 80-2 Meters. I intend to use it in Sweepstakes but for this test it wasn't on 10M, where when the band is open anything works, or 15, which is about the same, but instead on 20M. This is Blood Alley where the bullies will try to take your lunch money.

As this antenna has a 100W rating I would have to run barefoot. Thus I am giving up about 12 dB (two S-units) to those who come to the fray amplifier armed. Next, I will raise this vertical (using an Antennas West fiberglass pole) 16.5 ft. above ground, being at some disadvantage to those who may have a dipole up at 50 or 60 ft. or those who have gain antennas up a tall tower. I put up four quarter-wave radials, enjoying the symmetry of their appearance. Putting up these wires I remember my dear mother who, when I was a small boy with crystal set and putting up a long aerial on the farm, (it ran from the house to the barn) asked why they called it wireless when there was all this wire. Philmore was a magic name and back then even a single earphone was cherished. A pair of earphones was for people in the city.

Anyway, to the contest. It was with some trepidation that I entered into battle (at the bottom of the sunspot cycle) with but a seven-foot antenna. But, here came contacts at :44, :47, :49. The next hour it was :43, :45, 46. Another string was :59, :01, :02, :04, :07 :08, :10. I am seeking the CQers.

There are those that I get on first call and those I stand in line for, sometimes a long line. It's said that a vertical antenna radiates equally in all directions. It must be so because in one seven-minute period I made four contacts, all on different continents. There was another time that I worked Argentina at :11 and Chile at :12.

There were some great operators heard but I think the very best was PJ9T. It seemed I had a pipeline to the Caribbean and the Finns had very good ears for my signal. But honest reporting compels me to mention that some stations just never heard me at all.

So what hope can I give those who must make do with only miniature antennas? Well, I did qualify for a Worked All Continents award. Over half of the CQ 40 zones are in my log (half an antenna, [a 1/4-vertical for 14.2 MHz is 16.5 ft.,] half the world. You will probably do better than I did because you won't take an afternoon nap each day. This was a nice contest, with my Heil headset and boom mike on vox, I would just lean way back in my chair with the Palomar power meter's flashing lights telling me that my signal was going out. I almost fell out of my chair when I was answered on first call (I thought I was really going to have to spend some time) on a really long-haul station, far beyond the geographic dimensions mentioned above.

This antenna retails for around $250 and may be just the ticket for those whose "better halves" object to larger and bulkier antennas on the family automobile. As I mentioned I'll be trying this antenna during Sweepstakes, but it will have to be mounted lower so I can change the taps for the different bands.

A reader wrote in to say I was wrong. While that is nothing un-

usual in itself, this letter was. For a change it wasn't in pencil, block printing on a child's lined school notebook paper. It was well typed with no misspellings and it was as polite and courteous as could be. Thus I shall respond in like manner.

To prove my point the following display was set up.

Four brand new MFJ dry dummy loads (MFJ-264) were measured for DC resistance with an HP multimeter and for SWR and impedance with an Autek RF Analyst:

DL"A"	50.7	1.0	52
DL"B"	50.1	1.0	52
DL"C"	50.8	1.0	52
DL"D"	50.5	1.0	52

All the connecting cables used were brand new identical each three-feet of RG-58A/U with PL-259s, MFJ part number MFJ-5803.

Dummy loads "A" and "B" were connected in parallel with a cable from each to a coaxial "T" connector. The resistances, SWR and impedance:

Measured	SWR	Z
25.4	2.2	26

Dummy Loads "C" and "D" were connected in parallel with a cable from each to a coaxial "T connector. The resistances, SWR and impedance:

Measured	SWR	Z
25.4	2.2	26

The junctions of "A" & "B" and "C" & "D" were connected in parallel with a cable from each to a coaxial "T" connector. The resistances, SWR and impedance:

Measured	SWR	Z
12.7	4.3	13

The next step: From a transmitter, 35 watts was sent to dummy load "B." A Bird wattmeter read 35W Forward and 0W Reflected.

Next, with "A" and "B" in parallel the Bird wattmeter readings were 40W Forward and 4.9W Reflected.

Next, with "C" and "D" in parallel the Bird wattmeter readings were 40W Forward and 4.6W Reflected.

Combining "A" & "B" with "C" & "D" the Bird wattmeter readings were 52W Forward and 19W Reflected. (Note: the 52W is an "eyeball" as the reading was off scale.) The 50W scale was chosen for the greater resolution in measuring reverse power. The best way to conduct the test is to use two Birds simultaneously, one reading forward and one reading reverse, but I had loaned out one of the wattmeters.

And now to the crux of the matter! The Bird wattmeter was now moved to THE OTHER SIDE of the "ABCD" junction and next to each individual dummy load. The readings, Forward/Reflected were:

DL"A"	8W/0W
DL"B"	8.25W/0W
DL"C"	8W/0W
DL"D"	8.25W/0W

For a total of 32.5W. Note: the meter's accuracy suffers a bit when compared with full scale.

To double check, the Palomar lightbar meter (in the 20W setting) was inserted before each dummy load. The Palomar, which starts to light at about 1:1.05, remained dark.

The transmitter's SWR meter (reading the four dummy load junction) was at 3++ when the internal tuner was turned off. (There are no markings between 3 and infinity.)

And just to make sure, at the end of the tests, the transmitter's output power was again measured into DL"B" and it was exactly 35W.

And that's the story on nodes and how the SWR will not be the same at all of them. And, I appreciated the genteel (for a welcome change) manner in which I was addressed.

And, I'll bet you have never seen an explanation similar to this in any other Ham magazine or book.

Having four dummy loads is a bit superfluous, and I have five others. So I'm going to sell these. The retail price is $59.95 and cables are $4.95 each. This dummy load is rated at 100W for 10 minutes and 1,500W for 10 seconds, from 160M to 650 MHz.

The only usage has been for the few moments of the test related above. Let's round it off to $60 for the dummy load and the cable and the shipping. As certainly far more than four Hams will want a genuine KNS souvenir, send in your letter/card/QSL saying that you want to make the purchase and a drawing (for the fortunate four) will be held 30 days after the first one is received. Write to KNSDL, ***Worldradio***, 2120 28th St., Sacramento, CA 95818.

(Kurt N. Sterba goes by his mischievous moniker for many reasons, one of which is that it so irritates many people.) WR

Contest Corner

Don Durk, KA1DWX
76226.1414@compuserve.com

Tusen takk!

It's not very far from English and means "many thanks" in Norwegian. It's easier for me to remember it as 'a thousand thanks.' Why start a column this way? Because Jan Almedal, LA9HW, is the chap I rely upon most often for source info for this column. Jan publishes his contest web site at http://home.sn.no/janalme/hammain.html and it is the best page around. It is a complete calendar for each month of the year and has rules and results of prior contests. Many tnx, Jan!

Speaking of languages, one of my greatest joys about CW is that you can say howdy to folks in several languages without pronunciation problems! Of course the next time I run into them on SSB it gets a bit sticky!

Here are few "hellos" I know; can you supply a few more, or perhaps a few 'see you laters' or correct my errors? I know there are a few reference books for phrases but I have lost the source, can you help?

Russian-'zdr' for hi and 'poka' or 'dsw' for CUL; Hungarian-'szia' for either; Turkish 'merhaba' for hi; Spanish 'adios' or 'hasta pronto' for CUL; Czech or Slovak 'ahoj'; French 'bjr' for good day 'bsr' for good evening. How about tnx-Francais-'mci'; Italiano-'grz'; Arabic-'shokran?'; Russian 'spb'; Spanish-'grs'. Okay you linguists, let me know what you have! How about a nice list of Happy Holidays/ New Years/X-mas? With your help, next year we can publish a nice November/ December reference of holiday greetings in several languages.

In the contests that follow, get logs in within 30 days! Most contests require separate logs per band, check sheets for over 200 Qs, a summary sheet and a signed and dated affidavit attesting to observance of the rules of both the contest and your local regulating authority. A statement wherein you agree to be bound by the decisions of the contest committee is also needed. All times are in UTC. WARC bands excluded.

Late January 'tests

(See ***Worldradio*** January issue)

•CQ WW 160 CW 'test

25 January 22:00-26 January 16:00

(RST+48 state/13 provinces/ DXCC country)

•REF French CW 'test

25 January 0600-26 January 1800

(RST+number)

•UBA SSB 'test (Belgium)

25 January 13:00-26 January 13:00

(RST+number or province for ON stns)

February 'tests

•NorthWest QRP Club Digital 'test

1 February 17:00-2 February 05:00

(RST+NorthWest QRP member # or power output state/province/ country)

QRP(10 watts PEP or less) 80 thru 10 Meters. Baudot, Pactor or Amtor only — if unable to connect with Amtor or Pactor try using FEC mode. On 20 Meters please use 065-080 for Pactor/Amtor; 080-090 for RTTY and avoid 14060 QRP frequency. Submit the best 6 hours of 12 for score. Score: 5 pts for No West QRP member; 3 pts for non-member. No mults. Classes: Single op 1 tx; Multi op 1 tx; Club 1 tx. KG7ME or n7mfb@juno.com

•AGCW(DJ/DL) Straight key 'test

1 February 16:00-19:00

(RST+number category name + age)

80 Meters only. Categories- A: Single operator, max 5W output. B: Single operator, max 50 W output. C: Single operator, max 150 W output.

Points: Category A to category A counts 9 points. Category A to category B counts 7 points.

Category A to category C counts 5 points. Category B to category B counts 4 points. Category B to category C counts 3 points, category C to category C counts 2 points. No mults.

Sum of valid QSO points. Only straight keys permitted. Logs: Send logs within 4 weeks to: DF1OY.

•Delaware SSB/CW/Digital QSO Party

1 February 17:00-05:00 and 2 February 13:00-01:00

(RS(T)+county for DE stns, state/ province/DXCC country for others)

Q 1x per band and mode, 160-10 Meters. Fqs: 1.825/1.860; 3.550/ 3.960; 7.050/7.260; 14.050/14.260; 21.050/21.360; 28.050/28.360. Nov/ Tech 25 kHz up from band edge. Scoring: 1 pt for phone Qs; 2 pts for CW/RTTY/ digital Qs. No mults. 1 class for all ops. Certs and prizes. FSARC, P.O. Box 1050, Newark, DE 19715 or radio@udel.edu

•Classic Radio Exchange (CQ CX)CW/SSB +AM!

1 Feb 19:00-2 Feb 04:00

(Name, RS(T), rcvr + xmtr type - for homebrew send final amp tube or transistor)

Q 1x each mode per band. Q anyone, 80 -10. CW 60 kHz up, SSB 3.880,7.290,14.280, 21.380 28.320 + AM freqs. N/T 20 kHz up. Favored fqs-7.060 + 3.560. Score- QSOs x (# of diff rcvrs and trnsmtrs on each mode per band + total states/provs/ DXCC countries per mode per band). Multiply this total by your classic multiplier i.e., total years in age of rcvrs and trnsmtrs used. If xcvr, multiply its age by two, if homebrew count 25 yrs unless older, in which case use the actual construction date. Classic is 10 yrs or older but you do not need it to op in 'test. Certs. AA4RM or W8KGI/5.

•Utah 160 Meter Challenge

8 February (CW 01:00-0400; SSB 04:00-07:00. (RS(T)+county for UT stns DXCC country for others)

Single op only. Score: pts (1 per Q if your power is 200W or> and 1.5 per Q if 200W or <) x mults (UT counties and DXCC countries) WE7H.

•NH CW/SSB/Digital QSO Party

1 Feb 00:00-2 Feb 24:00

(RS(T)+ county for NH stns; state/prov/DXCC country for others) 24 hr max. Off for 6 hr min. Q 1x/band and mode.

160-10. CW 30 kHz up, SSB, 25 kHz up from bottom of General portion, N/T CW 30 kHz up, N/T SSB

all 10 meter N/T band. VHF-50. 200, 144.200, 146.55. Score 1 pt for SSB/FM, 2 pts CW/digital. QSO club stns (WB1CAG; K1BKE; KB1BRO; W1WQM; W1GUA; KC1XG) and get 5 pts for ea SSB/FM, 10 pts for CW/digital. Classes-Mobile; Above 50 MHz; QRP(<10 W); Low Power (<150 W); Single Xmtr; Multi Xmtr; Large Club (>50); Small Club(<50). Multiply score by total NH counties worked (10 max). NH stn mults are NH counties + states + provinces +1 mult for a DXCC country (max 72). Awards. WB1ASL.

•VT CW/SSB/Digital QSO Party

1 Feb 00:00-2 Feb 24:00

(RS(T)+county for VT stns, state/prov/DXCC country for others)

Q 1x/band and mode (up to 4 Qs per station per band are ok- SSB/CW/RTTY and Other). 160-10. CW 40 kHz up, SSB 25 kHz up from bottom of General portion, N/T CW 20 kHz up, N/T SSB all 10 Meter N/T band. VHF-50. 200, 144.200, 146.49 and 146.69 Score 1pt for SSB/FM, 2 pts CW/digital. VT stns multiply pts x counties in VT/NH/ME +states/provs/DXCC countries + W1BD and other legitimate VT club stns. Mults are counted only 1x, not per band. Non VT stns multiply pts x VT counties (14)+W1BD and any other legitimate VT club stn. If you need VT here's your opportunity. QRP class (5 W CW; 10 W SSB). Certs and plaques. KE1BV.

•ME CW/SSB/Digital QSO Party

We have no new info on this but usually it is the same timing as the NH and VT QSO parties listed above.

•NA SSB Sprint

2 February 00:00-03:59

(SEE NA CW Sprint BELOW)

3850; 7225; 14275

•NA CW Sprint

9 February 00:00-03:59

(Calls+number+name+state/prov/DXCC country)

Q 1x per band, 80, 40 and 20 Meters only. Call 40 kHz up. NA stns Q all. QSY rule: If you call CQ, QRZ, etc., you can only work one stn in response to that call. You then must move at least 1 kHz to work another stn or 5 kHz before calling CQ, QRZ, etc. Once you QSY, you may not make a new QSO on the earlier frequency until you have made a contact at least 1 kHz or 5 kHz away. Score pts (Qs) x (total states [not KH6]+VE provs (8 possible-[VE1 or VO1 or VO2], VE2-VE7, [VY1 or VE8]+NA countries [excluding USA and Canada]). Non North American countries and KH6 are okay for QSO pts but not mults. Team competition by pre registration w/N6TR. N6TR/NCJ.

•RSGB 1.8 MHz CW 'test

8 February 21:00-9 February 01:00

(RST +number; UK stns RST + number + county) UK stns work all others.

Score- 3 pts for each UK Q and a bonus of 5 pts for each different UK county. G3UFY.

•QCWA CW QSO Party

8 February 00:01-9 February 23:59

(RST+name+QCWA number + DXCC country)

Q 1 x per band 10-160 Meters (no WARC bands). Score- 1 pt per Q x mults (ea QCWA area, irrespective of band). W1EES.

***•Digital Journal* WW WPX RTTY 'test**

8 February 00:00-9 February 24:00

(RST+number; multi xmtr stns may use separate numbers for each band)

RTTY, AMTOR, PACTOR, G-tor™, and CLOVER™. 80-10 Meters (NO WARC BANDS). DX clusters and DX alerting assistance is permitted for all classes of operation. Score- pts (between stns on different continents- 3pts on 10-20 Meters and 6 pts on 40 and 80. Qs between stns on same contintent but different countries-3 pts 10-20 Meters and 4 pts on 80 and 40. Qs within the same country-1 pt 10-20 Meters and 2pts on 40 and 80) x mults (different prefixes worked-prefix counted once only, not per band). For portable stns the designator is prefix. Portable stns without designator will be assigned to area 0 for that country; e.g.-WS7I/PA will be PAØ/mm only for prefix, not for pts. Calls w/o numbers will be assigned a Ø after the first two letters to form the prefixes-RAEM becomes RAØEM.

Classes: Single op 1 xmtr; single op multi xmtr; multi multi and low power (<150W output). For single op and multi single ops only 30 of 48 hrs allowed. Multi multi ok for 48. Logs in chron sequence for single op. Multis, chron by band. Separate cklist of claimed prefix mults required. Certs and plaques. WF1B software is suggested. AB5KD.

•Asia-Pacific CW Sprint

8 February 12:30-14:30

(RST+number) Q 1x per band, 20 or 40 Meters. 150W power max. Score (1 pt per Q) x mults (prefixes per WPX rules-once only, not per band). Possibles: 3D2 (all); 1S/9M0; 9M2; 9M6/8; 9V; BV; BV9-Pratas; BY;BS Scarborough; C2; DU; FK8; FW; H4; HL; HS; JA; JD1/Ogasawara; JD1/Marcus; T8/KC6 Belau; KH2; KH9; KHØ; P29; T2; T30; T33; UAØ; V6/KC6; V7; V85; VK1-9 (Except VK9X + VK9Y);VS6; XU; XV/3W, XX9; YB; YJ; ZL (Except Chatham + Kermadec). Only single op, 1 radio class. QSY rule-called stn must QSY at least 1 kHz after an exchange. T-shirts! ASCII okay. JAs to Tack Kumagai, P.O. Box 22, Mitaka,Tokyo 181, Japan. Non JAs to James Brooks,15 Balmoral Road 03-08, Singapore 259801, Singapore

•PACC Dutch SSB/CW 'test

8 February12:00- 9 February 12:00

(RS(T)+number or prov for PA stns)

Q PA/PB/PI stns only. Q only 1x per band not per mode! 160 (CW only)-10.

Score-1 pt per QSO x mults (1 per province per band). Provinces-GR, FR, DR, OV, GD, UT, NH, ZH, FL, ZL, NB and LB(12). Single op/multi op.Certs. PA3BFM

•School Club Roundup

10 February-14 February 13:00-01:00 Mon-Fri (each day) (RS(T) +class

I- Individual (Nonclub); C-Non school club or multi op group; S-school club or group, including colleges or universities) + state or country. 24 hr max. Off periods at least 30 mins. Q 1x only both CW (Packet or RTTY are CW) and phone. Score-pts (1 pt for phone, 2 pts for CW) x mults (states + DXCC countries + 2x (Cclass QSOs) plus 5x (S class QSOs). *QST*

•YLRL YL-OM SSB 'test

14 February 14:00-16 February 02:00 (RS +QSO number+ ARRL section /VE province/DXCC country)

Q 1x per band. 3940-3970; 7240-7270; 14175-14280; 21380-21410; 28300-28610. YLs work only OMs and OMs work only YLs. Score-1 pt per Q x mults per band (ARRL sections/VE provinces/DXCC countries).

Credit a special multiplier of 1.5 if you are using 100 watts or less on CW and 200 watts PEP on SSB. Cups and certs. KC4IYD

•YL ISSB QSO Party- SSB

15 February 00:01-16 February 23:59

(Name, RS, state/province/DXCC country, partners call, ISSB number if available) Nonmembers welcome!

Q 1x/band; score- pts (1 for nonmember; 3 for 2 way member Qs; 6 for 2 way member Qs w/ diff country) x mults (must be members to be mults - 1 mult for each: QSO both DX/stateside partner; Each YL/OM team member; Each US state, Canadian province, DX country,VK call area, ZL district). Also 2 added mults if you use 250 watts or less for entire test. Single op// YL/OM team //DX/stateside partner.Ck 40 and 80 on the hr. Certificates. SASE for details. N4KNF.

•ARRL Int'l DX CW 'test

15 February 00:00-16 February 24:00

(RST+ state/prov;DX-RST+pwr) W/VE Q DX. DX Q W/VE.

160-10 Meters. No WARCbands. Q 1x per band. Score-pts (W/VE-3 pts per DX QSO;DX-3 pts per W/VE QSO) xmults (W/VE-DXCC countries per band exc. US and Canada; DX-states exc. KL7 and KH6 and DC plus provinces per band. Max 62 per band). /mm# /aerom Qs count only for QSO pts not mults. Single op unassisted or single op assisted -A- All band:1A QRP;1B 150 or less; 1C >150W. 2 single band. B - Single op assisted. C — Multi op. C1 1xmtr; C2 - 2 xmtrs; C3 -unlimited. Ck sheet for 500 or > Qs. Plaques. *QST*

•YLRL YL-OM CW 'test

21 February 14:00- 23 February 02:00 (RST + QSO number+ ARRL section /VE province/DXCC country).

See YLRL SSB 'test 14 February ABOVECW: 3.540-3.725; 7.040-7.070; 14.040-14.070; 21.120-21.150; 28.150-28.200 kHz. KC4IYD

•CQ WW 160 SSB 'test

21 February 22:00-23 February 1600

(RST+48 state/13 prov/DXCC country) Score - pts (2 for own country; 5 for diff country in same continent,10 for different contintent) x mults (states + provs + DXCC countries). Provinces are VO1, VO2, VE1-NS, VE1/VY2-PEI, VE2, VE3, VE4, VE5, VE6, VE7, VE8-NWT and VY1-YKN. *CQ*.

•UBA (Belgium) CW 'test

22 February 13:00-23 February 13: 00

(RST+number or prov for ON stns)

Prov-(AN, BT, HT, LB, LG, LU, NR, OV, WV) +BR for Brussels

Q 1/band 80-10. Single op band/multi band; multi 1xmtr all band.; QRP 5W=class B. Score- Pts (ON=10; other EU community members=3; others=1) x (total number Belgian provinces +all ON prefixes + EU community members). EU community members are: CT /CU /DL /EA /EA6 /EI /F /G /GD /GI/GJ /GM /GU /GW /I /IS /LX /OE /OH /OHØ /OJØ /OZ /PA /SM /SV /SV5 /SV9 /TK. ON4JG.

•RSGB 7 MHz CW 'test

22 February 15:00-23 February 09:00

(RST+NR; UK send 3 letter county code)

Q only UK stns. NA stns score 15 pts per QSO. Score- pts x mults (UK counties).G3UFY

•REF French SSB 'test

22 February 06:00-23 February 18:00

(RS+number)

Q 1x per band, 80-10.Work F stns; overseas territories and DA1/DA2. Score - pts (1 for own continent; 3 for other cont.) xmults (French depts, DA, DA2, F6REF/00, Each DOMTOM per band). F6ETI.

•NC SSB/CW QSO Party

22 February 00:00-23 February 24:00

(RS(T)+ county for NC stns, state/prov/DXCC country for others)

Q 1x per mode per band (ok to work mobiles again as they change counties). Score-pts (1 for phone; 2 or CW; 5 for ea Novice/Tech Q) x mults (NC counties (max100) for non NC stns. Classes: Single operator high/low power; multiop; club; QRP and mobile. Add 25 bonus points for working both Cherokee and Dare counties. K4EG

•CO QRP SSB/CW Winter 'test

23 February 22:00-24 February (Monday) 03:59

(RS(T)+state/province/DXCC country + first name + member number if member or power out if nonmember) Q 1x per mode per band,160-10 Meters. 5W output restriction on SSB and CW. No power mults. Score-pts CW-member Q 6 pts; nonmember Q 4 pts; SSB-memberQ 3 pts, nonmember Q 2 pts.Bonus of 1,000 pts for working KBØUCQ club stnx mults per band, not per mode (states/provinces/DXCCcountries). KGØPP.

March 'tests

3/1 Weekend
•ARRL Int'l SSB DX 'test
3/8 Weekend
•RSGB Commonwealth 'test
•QCWA SSB QSO Party
•WI QSO Party
3/14-3/15
•CLARA HF CW'test
3/15 Weekend
•Bermuda Contest
•BARTG RTTY 'test
•Russian SSB/CW DX 'test
•VA QSO Party
3/18-3/19
•CLARA HF SSB 'test
3/22 Weekend
•KL7 QSO Party
3/30 Weekend
•CQWW SSB WPX 'test

April 'tests

4/5 Weekend
•EA WW RTTY 'test
•SP DX 'test
•Holyland DX 'test
4/9-11
•YLRL CW 'test
4/11-13
•JA Int'l HF CW DX 'test
4/12 Weekend
•ARCI QRP CW QSO Party
•MARAC SSB County Hunters 'test
•Int'l HF Grid 'test
•King of Spain 'test
•Digital QSO Party
4/19 Weekend
•ES Open Championship
•YU DX CW/SSB 'test
•SARTG WW AMTOR 'test
•EU SSB Sprint
4/23-25
•YLRL SSB 'test
4/26 Weekend
•SP DX RTTY 'test
•Helvetia HB9 CW/SSB 'test
•Nebraska CW/SSB QSO Party

WR

Hamfests

February

Do you have a hamfest coming up? Send your information to our 28th St. office at least 2 months in advance of your event. We'll send prizes!

California

The **Livermore ARK** will hold a swap meet on 2 February from 7 a.m. to noon at Las Positas College, 3033 Collier Canyon Rd., Livermore, CA (Airway Blvd., exit to north of 580 highway). Features include new, used, surplus ham, computer gear, miscellaneous electronics and testing equipment, refreshments available. Admission and parking are free; vendors $10 per space (equals two parking spaces). No VE exams. Contact Noel Anklam at 510/447-3857 (eves.) or 510/783-2803 (days). Talk-in on 145.350(-) PL 100 (receive and send), 147.045(+) PL 94.8, 147.120(+) PL 100.

Colorado

The **Aurora Repeater Association** will hold a swapfest on 16 February from 8:30 a.m. to 2 p.m. at the Adams County Fairgrounds, 9755 Henderson Rd., Brighton. For additional information, contact Chris Knauer, KB9CCR, at 303/403-1883 or e-mail at cknauer@skywarn.org or write ARA, c/o Janice Christopherson, 4376 S. Argonne Way, Aurora, CO 80015.

Florida

The **DeSoto ARC, Inc.** will hold a hamfest on 8 February at the DeSoto Fair/Rodeo Grounds on Hwy 17, South in Arcadia. Admission is $3, tables $10 and tailgate spaces are free with admission purchase. Free RV parking on grounds near the hamfest building. For information, call Doug, KN4YT at 941/494-5070, or Harry, K4LU at 941/494-4390.

Georgia

The **Dalton ARC** will hold a hamfest on 22 February from 8 a.m. at the North Georgia Fairgrounds in Dalton. Admission is $5, tables $5. Information and table sales through Harold or James only; please don't leave it on the machine or ask YLs to tell us. James, K4FLG (after 6 p.m. only) at 706/278-0630 or Harold, N4BD (after 6 p.m.) at 706/673-2291.

Indiana

The **LaPorte ARC** will hold a Cabin Fever Hamfest on 22 February from 8 a.m. to 2 p.m., at the LaPorte Civic Center. Admission is $4/advance, $5/door. Contact John, N9ROH, c/o LPARC, P.O. Box 30, LaPorte, IN 46352.

Iowa

The **Davenport ARC** will hold a hamfest on 16 February from 7:30 a.m. to 3:30 p.m. at the QCCA Expo Center, 2621-4th Ave., Rock Island, IL. Features include a large indoor flea market, commercial exhibits, food and door prizes. Admission is $5/advance, $6/door (under 14 are free). For information on tickets or table reservations, send an SASE to: Kent Williams, K9UQI, 4245 10th St., East Moline, IL 61244-4154. Talk-in on 146.88(-) repeater.

Massachusetts

The **Algonquin ARC** flea market will be held on 15 February at the Marlborough Middle School. Admission is $3. Dealer space is $12 (before 10 Feb), $15 after. For further information contact Ann Weldon, KA1PON, P. O. Box 258, Marlborough, MA 01752; 508/481-4988 (before 9 p.m.).

Michigan

The **Livonia ARC** presents its 26th Annual Swap-n-Shop on 23 February from 8 a.m. to 3 p.m. at the Dearborn Civic Center. Amateur VE exam sessions. Reserved tables $16 plus advance admission of $5; $5/door. For information, send an SASE, c/o Neil Coffin, WA8GWL, Livonia ARC, P.O. Box 51532, Livonia, MI 48151; 313/261-5486. Talk-in LARC repeater 145.35(-) and 146.52(S).

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The **Cherryland ARC** will sponsor their annual swap-n-shop on 15 February from 8 a.m. to 12 noon at the Immaculate Conception Middle School in Traverse. VE exams follow the swap at 1 and 4 p.m. Preregister or register at swap only. For more information, contact Joe, W8TVT, at 616/947-8555 or Chuck, W8SGR; 616/946-5312. Talk-in on 146.86(-).

Minnesota

The 16th annual **Midwinter Madness** will be held on 08 February from 8 a.m. to 3 p.m. at National Sports Center, Blaine, MN. Exit #32 off 35W. Admission is $7/door. Super buys on computers, software, hardware, components, peripherals, Amateur Radio equipment. Over 40 commercial vendors, 300 flea market tables selling used equipment. Over 4,000 people expected. For information: RARC, P.O. Box 22613, Robbinsdale, MN 55422 or call 612/537-1722.

New York

The **Amateur Radio Association of the Southern Tier** will hold a hamfest 15 February from 7 a.m. to 3 p.m. at the New York State Armory, 128 Colonial Drive, in Horseheads. Features include dealer displays of new equipment and an indoor flea market area. Tables will be first come first served. Breakfast and lunch served on the premises. Prizes will be given throughout the day. VE exams will be given at 9 a.m.

Ohio

The **Intercity ARC, Inc.** will hold the Mansfield Mid*Winter hamfest computer show on 09 February from 7 a.m. at the Richland County Fairgrounds in Mansfield. Flea market in heated buildings. Admission is $4/advance and $5/door. Tables $9/advance and $12/door, if available. For additional information or advance tickets/tables, send SASE to: Pat Ackerman, N8YOB, 63 N. Illinois Ave., Mansfield, OH 44905; 419/589-7133 after 1 p.m. EST. Talk-in on 146.94(-).

Oregon

The **Salem Repeater Association and Oregon Coast Emergency Repeater Assoc.** will hold their 1997 Salem HamFair on 15 February from 9 a.m. to 3 p.m. at the Polk County Fairgrounds in Rickreall. Features include flea market, dealers and exhibits. VE exams will be given but preregistration is required (contact Sandy Berry, N7TQQ at 503/588-7685).

Admission is $6/advance, $7/door, tables $13/advance, $15/door. Self-contained RV spaces available $10 per night. For more information, contact James Pardey, WA7ZAJ at 503/651-3216 or via e-mail at address: http://www.teleport.com/~n7ifj Talk-in on 146.86(-) repeater.

Pennsylvania

The Harrisburg Radio ARC will hold its winter hamfest on 15 February from 8 a.m. (setup at 6 a.m.) to noon at the Oberlin Fire Hall in Oberlin. Features include great food, deals and fellowship. VE testing will be held at the Friendship Fire Dept. Admission $2 (XYLs and harmonics are free), toasty inside tables $8, tail-freezing tailgating $1/space. For information, telephone the HRAC AnswerLine at 717/232-6087. Talk-in on 146.76(-).

South Carolina

The **Charleston Amateur Radio Society** will hold a hamfest on 08 February from 8:30 a.m. to 4 p.m. at Stall High School in North Charleston, located near I-26 and Ashley Phosphate Rd. Admission at the door is $5 (children under 12 are free). Tables are $8 per 8 ft. in advance or $10 at the door. Features include door prizes, food and VE exams. VE exams will begin at noon on a walk-in basis. Contact Ed, KC4OOZ at 803/871-4368 or Doc, W4MUR at 803/884-5614 or e-mail efrank@charleston.net For other questions or to reserve tables contact Jenny Myers, WA4NGV, 2630 Dellwood Ave., Charleston, SC 29405; 803/747-2324 or email: brycemyers @aol.com Admission at the door is $5 (children under 12 are free). Talk-in on 146.79(-) and 145.25(-).

Texas

The second annual **Potter/Randall ARES** hamfest will be held on 1 February from 8 a.m. to 6 p.m. at the National Guard Armory located at Tee-Anchor Blvd. and Nelson. Features include door prizes, VE exams, Skywarn class, 3933 Net meeting, packet radio meeting. Admission is $5/advance, $7/door, tables $10 (admission free). Contact Don, KC5EZO at 806/381-2775. For other information or to pregister, remit to: ARES, Box 5378, Amarillo, TX 79117. Talk-in on 146.92(-), 145.35(-), and 444.200(+).

Vermont

The **Radio Amateurs of Northern Vermont** will hold their winter hamfest on 22 February from 8 a.m. to 3 p.m. at Milton High School, Route 7 in Milton, 5 miles north of I-89, exit 17. Features include flea market exhibits, book sales, forums, auction, dealers and refreshments. VE exams will be given at 9 a.m. and 2 p.m., commercial exams at 2 p.m. Admission is $3, free for those under 18 years. Tables are free, while they last. Call for large setups. Contact W1SJ at 802/879-6589, e-mail wb2jsj@vbi.champlain.edu, web site http://www.together.net/~fflynn/milton.html Talk-in on 145.15(-) repeater. **WR**

Information in "New Products" is supplied by the manufacturers to acquaint *Worldradio* readers with new products on the market.

DX-70TH mobile/ portable/base unit

Alinco Electronics has announced the addition of the DX-70TH to its growing line of Amateur Radio equipment. The new model maintains all the features of the popular DX-70T mobile/portable base unit but increases the output on 6 Meters to 100 watts. The older DX-70T has a 6-meter output of 10 watts.

"The DX-70TH was created in response to suggestions made by Amateur Radio operators and members of the press that cover the hobby," said Taka Nakayama, Vice President for Alinco. "We believe that the ham radio community will respond in a positive way when a manufacturer takes their suggestions and turns them into reality."

According to Doug Wynn, Sales Manager for Alinco, MSRP, of the DX-70TH is $1,074. But Wynn has already heard reports of dealers who are examining discounts on the unit and offering a "street price" of just under $1,000. "Even at $1,074, there is tremendous value in the DX-70TH," said Wynn. He added, "It's able to be used as an all-mode (SSB, CW, FM, AM and Data) radio in the mobile/portable/base station environments. It's the type of radio a new licensee can buy and grow into as his or her interests, capabilities and license privileges expand." Wynn pointed out that the DX-70TH includes a general coverage receiver for reception of short wave broadcasts and other transmissions.

Alinco officials indicate the DX-70TH will be offered in tandem with the DX-70T for the foreseeable future. "The DX-70T continues to be a leader in the HF+6 Meter mobile field, with a street price of well under $1,000 per unit. This gives customers a choice; if they seek the additional output power of the DX-70TH, it's available. If it's not important, the DX-70T can save them a few dollars," Wynn said.

The new DX-70TH also comes with a mobile mounting bracket as standard equipment, Wynn said. Popular features such as the removable remote-mount face and the interface with the EDX-2 automatic antenna tuner have been carried over from the existing DX-70T. Other available accessories include the EDS-4 Front Panel Remote Mount Cable and the EBC-8 Front Control Panel Remote Mounting Bracket, the EMS-14 Desktop Microphone, EDS-5 Microphone Extension Cord and the EDX-1 Manual Antenna Tuner.

Alinco also announced that the new architecture of the DX-70TH is not able to be retrofitted into existing DX-70T models, so no upgrade kit will be available. "The changes to the internal design of the radio were extensive, so much so, that a modification kit is out of the question," said Mr Nakayama, who is also an engineer. "That is why we created another model designation."

For more information on Alinco products, contact Alinco Electronics, Inc., 438 Amapola Ave., Ste #130, Torrance, CA 90501; 310/618-8616 or fax 310/ 618-8758.

ADI AT-600 Dualband FM handheld

Premier Communications introduces a new super-featured and low priced FM handheld everyone can afford and enjoy: The ADI AT-600. It is especially designed for modern amateurs, with features like simultaneous 2-meter/ 70cm receive, separate volume and squelch controls for each band, full duplex operation, and crossband repeat mode. It also has 200 memories that store any frequency, TX offset and CTCSS tone, 10 DTMF autodialing memories, several scan modes programmable alphanumeric display, battery save mode and auto shutoff when forgotten function. Additional features include CTCSS encoder and decoder for silent monitoring and DTMF paging for group calling — all built in — not optional.

The new AT-600 transceives from

144-148 MHz and from 430-450 MHz. It includes extended receive of the 108-137 MHz AM aircraft band, 137-174, 350-470 MHz and 900-985 MHz FM bands. The unit is MARS/ CAP capable, off-air cloneable, and can be PC-programmed with optional software.

ADI's AT-600 measures only 5"(H) x 2"(W) x 1.4"(D), and delivers 2.5 watts output (high)/.5 watt output (low) with its supplied rechargeable battery pack. An optional 12-volt battery pack can be added for increasing output to 5 watts.

Physically, the handheld is solidly built and designed for easy operation. The speaker grill is above the display, and is splash-proof. Both the keypad and display are fully illuminated for night use. Suggested price ranges between $349 @ 7.2V and $369 for the 12V models. For more information, contact Premier Communications, 20277 Valley Blvd., Walnut, CA 91789; telephone 800/666-2654, fax 909/ 869-5710. WR

Keep it up! Send your news, features, construction articles and commentaries to 2120 28th St., Sacramento, CA 95818. Share your experiences in Amateur Radio with hams around the world.

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 three months in advance. For example, if your VE group is scheduling an exam for October, please have the information to us by mid-July.

p/r pref. = pre-register preferred but w/i OK
p/r = pre-register only — no w/i

Worldradio, 2120 28th St., Sacramento, CA 95818. Please mark the envelope "VE Exams."

List the location (City), any information examinees should have (advance registration, etc.) and the name and telephone number of a person to contact for further information.

w/i pref. = w/i preferred to p/r
w/i = walk-in only

State	City	Contact	Notes
Alabama			
3/04/97	Mobile	David, WA4VAC 205/649-5229	
Arizona			
3/08/97	Tucson	Joe, K7OPX 520/886-7217	w/i
Arkansas			
3/08/97	Siloam Sprgs	Mike, KJ5OP 501/524-8090	p/r pref.
California			
3/26/97	Anaheim	Robert, AC6JM 310/429-8275	p/r pref.
3/27/97	Colton	Harold, AB6RN 909/825-7136 days or 909/685-6073 eves	
3/29/97	Culver City	Scott, K6PYP 310/459-0337 or Dave N3BKV 818/559-2572	w/i
3/08/97	Culver City	Clive, AA6TZ 310/827-2538	p/r pref.
3/01,15/97	Cupertino	Emmett, AE6Z 408/243-8349	w/i only
3/20/97	Ftn. Valley	Allan, AB6UB 714/531-6707	p/r pref.
3/29/97	Garden Grove	John, N6CTV 714/534-8633	p/r pref.
3/01/97	Hesperia	Jim 619/244-1396	w/i only
3/14/97	Irvine	Jack, WD6AEI 714/856-0802	
3/07/97	Lake Isabella	HOTLINE 619/379-2947	p/r pref.
3/17/97	Mission Viejo	Louis, 714/951-0336	p/r
3/02/97	Oakland	Vern, AA6YE 510/233-4504	p/r pref.
3/01/97	Ontario	Gary & Pamona 818/810-0442	
3/15/97	Orange	Richard, AA6NA 310/598-0086	p/r pref.
3/22/97	Petaluma	Dale, 707/762-9414	p/r pref.
3/29/97	Pomona	Don, WA6HNC 909/949-0059	p/r pref.
3/09/97	Sacramento	Dick, N6DK 916/383-2113	p/r pref.
3/08/97	San Pedro	Elvin, N6DYZ 310/325-2965	p/r pref.
3/01/97	San Rafael	Recording 415/883-9789	p/r pref.
3/12/97	Santa Ana	Red Cross, 714/835-5381 x140	w/i.
3/15/97	Signal Hill	Donald, NN6Q 310/420-9480	p/r pref.
3/15/97	Sunnyvale	John, KG6XF or Gordon, W6NW 408/255-9000	w/i only
3/15/97	Westminster	Terry, 714/638-4057	
Colorado			
3/08/97	Denver	Glenn, WØIJR 303/366-0155	w/i pref.
3/01/97	Littleton	Dave, NØHEQ 303/795-5718	w/i pref.
Connecticut			
3/20/97	Trumbull	Kevin, N1KGM 203/268-5015 or Bob, KA1ZMF 203/933-9587	
Florida			
3/15/97	Melbourne	Bill, WB9IVR 407/724-6183	p/r pref.
3/15/97	Orange Park	John, W5HUQ 904/264-5587	p/r pref.
3/08/97	Valparaiso	Bill, W4WIJ 904/243-9720 or Hud, KF4BU 904/862-2566	p/r pref.
Idaho			
3/08/97	Boise	Lem, W7JMH 208/343-9153	w/i pref.
Illinois			
3/08/97	Oak Forest	David, NF9N 708/448-0580	p/r pref.
Indiana			
3/08/97	Chesterton	Bill, N9SLQ 219/762-2887	w/i pref.
Maryland			
3/25/97	Glen Burnie	Jerry, NU3D 410/761-1423	p/r pref.
3/15/97	Manchester	Ed, 410/239-8488	p/r pref.
Massachusetts			
3/15/97	Melrose	Scott, WB1F 617/665-7654	p/r pref.
Nevada			
3/15/97	Minden	George, WW7E 702/265-4278	w/i pref.
New Jersey			
3/20/97	Bellmawr	Diane, N2LCQ 609/227-6281	w/i
3/08/97	Cranford	24 hour hot-line 201/377-4790	w/i pref.
3/12/97	Ft. Monmouth	Jerry, WB2GYS 908/532-5354	p/r pref.
3/08/97	Pennington	Don, AA2F 609/737-1723	p/r pref.
New York			
3/11/97	Bethpage	Bob, W2ILP 516/499-2214	w/i pref.
3/02/97	Yonkers	Emily, AC2V 914/237-5589	p/r pref.
3/23/97	N.Lindenhurst	Walter, KA2RGI 516/957-0218	p/r pref.
Ohio			
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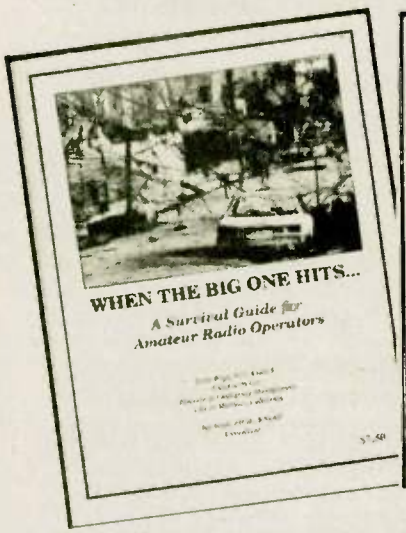

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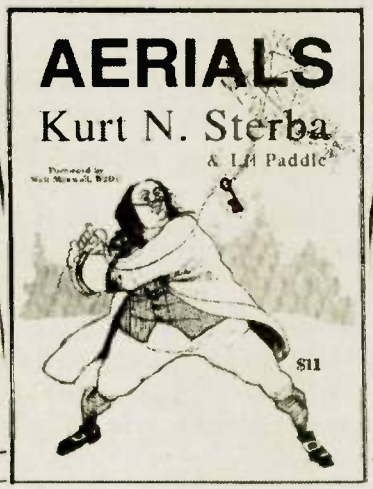

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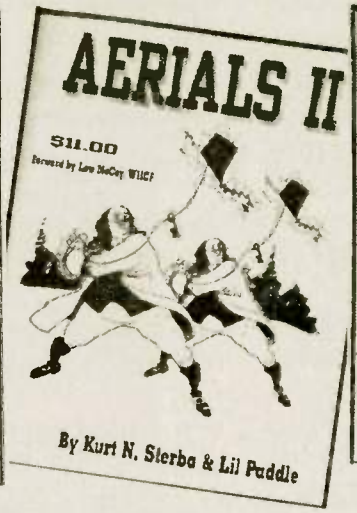

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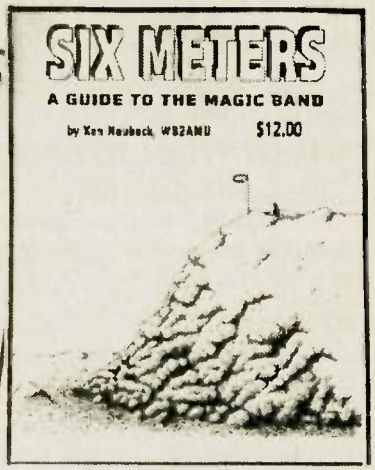

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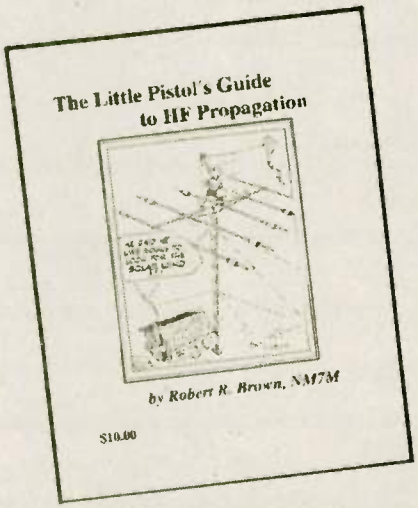

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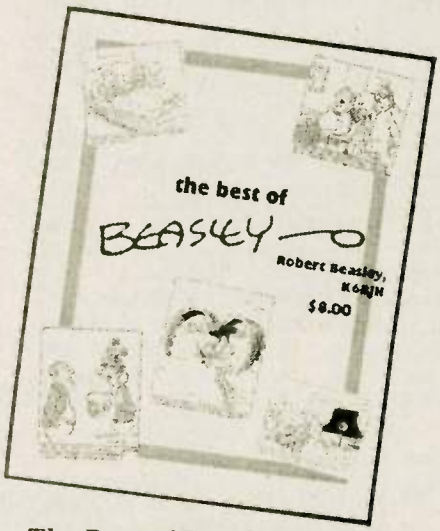

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Late Flash

FCC extends transition on RF radiation rules

The Commission has amended its rules to extend the transition period for applicants and station licensees to determine compliance with the new requirements for evaluating the environmental effects of radiofrequency (RF) electromagnetic fields from FCC-regulated transmitters. . . .

The American Radio Relay League, Inc., Ameritech Mobile Communications, Inc., AT&T Wireless Services, Inc., BellSouth Corporation, Paging Network, Inc., the Personal Communications Industry Association and US West filed petitions asking the Commission to extend the transition period beyond 1 January 1997, arguing that the existing transition period failed to provide adequate time for affected parties to achieve compliance with the new rules.

The Commission stated that, based on the petitions and comments, it is clear that most station applicants will need additional time to determine that they comply with the new requirements.

The Commission noted that an extension of the transition period would: 1) eliminate the need for the filing and granting of individual waiver requests; 2) allow time for applicants and licensees to review the results of the decisions that will be taken in the near future addressing other issues raised in petitions; and 3) permit applicants to review a revised information bulletin and make the necessary measurements or calculations to determine that they are in compliance.

The Commission indicated that it did not concur with: petitioners who suggest that granting any extension of the transition period will have significant adverse effects on public health.

Therefore, the Commission has extended the transition period to 1 September 1997, for most radio services. For the Amateur Radio Service, the transition period has been extended to 1 January 1998. Additionally, the Commission will allow changes to amateur radio operator license examinations to be made as the examinations are routinely revised between now and 1 July 1998. The Commission believes that these extensions are necessary so that applicants and licensees will have adequate time to understand the new requirements and to ensure that their facilities are in compliance with them. (FCC 96-487)

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