Worldradio

Year 25, Issue 1

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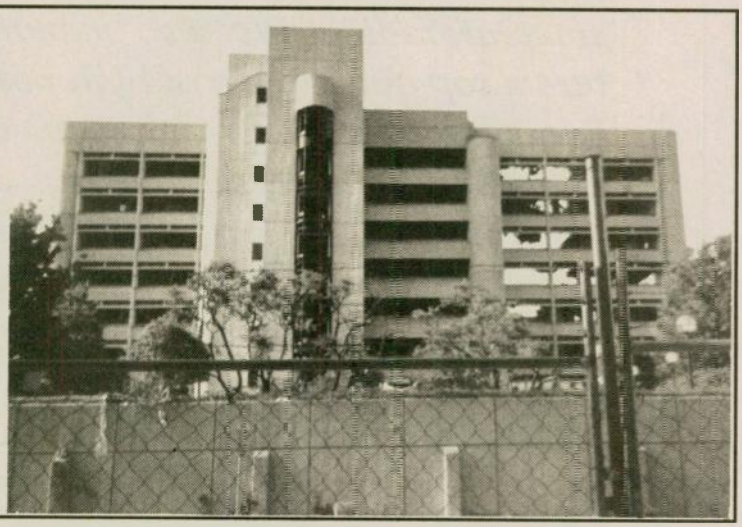

The shell of the A.P. Murrah Building before its final destruction on 23 May. ***—photo by Terrance Jones***

Aftermath of Oklahoma City

Joe Buswell, K5JB
Tom Webb, WA9AFM

Within minutes of the deadly blast at the A.P. Murrah Federal Building in downtown Oklahoma City, Amateur Radio operators established an emergency coordination network to support emergency relief efforts. The Oklahoma County Amateur Radio Emergency Services (ARES) network, operated by volunteer Amateur Radio operators, remained in continuous, 24-hour operation until the end of recovery efforts.

Frank McCollom, N5FM, trustee of Salvation Army's Oklahoma City division headquarters Amateur Radio station, was as the primary organizer of HF, VHF and UHF Amateur Radio communications support for the Salvation Army's disaster relief operation.

Based on established disaster plans, Amateur Radio operators were dispatched to area hospitals to coordinate emergency medical requirements. During the first few hours after the blast, telephone circuits were jammed and, in some cases, inoperative. Amateur Radio provided vital emergency communications to rescue and relief organizations until regular telephone service was restored. In the downtown area, Amateur Radio operators also provided communications backup to relieve the load on critical fire, police and emergency medical radio circuits.

Three weeks have passed since the bombing, and 360 continuous net operating hours have concluded, N5FM has had time to focus with the clarity of hindsight on the events that followed the bombing. He was asked for his thoughts on how the operation went.

Frank's initial response was, "For years we have been having drills and I've had this nagging concern that if a major disaster occurred Amateur Radio operators might not be well enough prepared to perform as effectively as we should. Well, my fears turned out to be totally unfounded. The amateurs performed much more effectively than I could have ever imagined."

However, there are always things that could be improved. He mentioned a couple of things to help amateurs prepare for disaster relief assistance. He said many Amateur Radio operators who volunteered were equipped with hand held radios which, because of limited battery capacity, would have been partially effective for only a short time. He advised that Amateur Radio operators who want to be prepared to help after disasters should prepare kits of necessary things for extended and more effective radio communications.

He suggested, for example, that the kit could be made up by filling a cloth bag with things that would make portable operation more effective, like

(please turn to page 6)

Oklahoma City amateur, one of many "heroes"

Tim Mauldin, WA5LTM

Thousands filled the stadium seats at Hara Arena for the 1995 Dayton Hamvention prize drawings; when the winner of a Yaesu FT-11R 2 Meter handheld was announced as an amateur from Oklahoma City, the audience burst into sympathetic applause. The response was but one more indication of support from the Amateur Radio community following the tragic bombing of the Murrah Federal Building at 9:02 a.m. CDT, 19 April, in downtown Oklahoma City.

Perhaps some in the Dayton audience also expressed their approval because they knew that the recipient was one of the many who had worked tirelessly the past week to rescue survivors and recover victims: it did seem appropriate to many that Oklahoma

(please turn to page 6)

Oklahoma City Police Lt. Stan Van Nort, N5JFQ, receives prize at Dayton.

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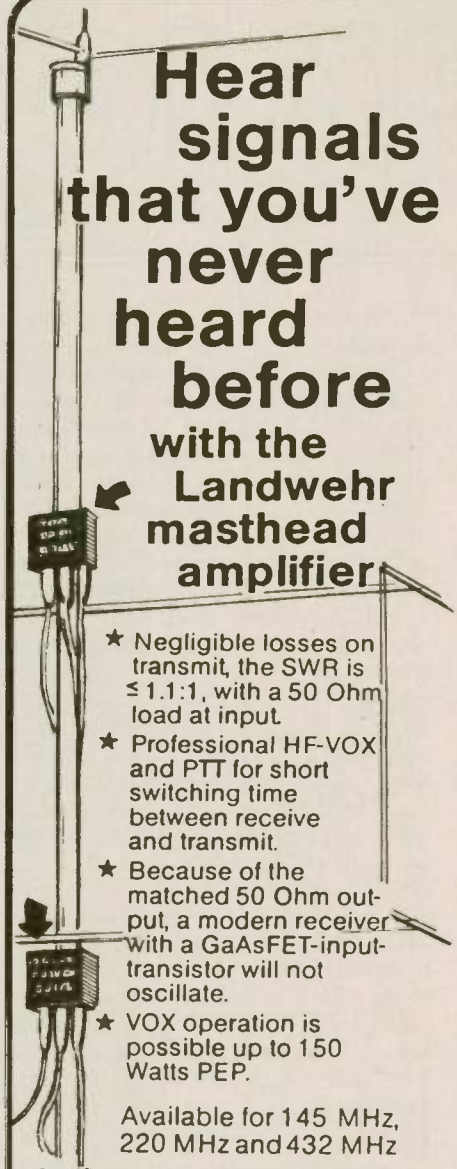

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Henry Radio

— *Worldradio* NEWSFRONT —

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

N. Korea activated

A dramatic event in Amateur Radio DXing took place on 14 May, 1995 when North Korea was put on the air. A delegation of businessmen from Finland led by internationally renowned DXer Martii Laine, OH2BH, and including OH2BC, and OHØXX, operated briefly as P5/OH2AM.

Government officials and Telecom delegates gave a warm welcome to the group during their short (17-hour) stay. Interspersed with their business commitments, the DXers were able to manage two brief intervals in which they made about 20 contacts on 20 Meter SSB and 40M CW.

As a side note, the Finnish amateurs encountered problems with the Russian border guards when entering North Korea. The group was held up some 26 hours while they waited for "clearance." To make good use of the time, they activated RØ/OHØXX from the border!

Regular Amateur Radio operation in the PDRK is slated for later in 1995, and in preparation, the Finnish DXers presented four Yaesu HF/VHF rigs for training purposes. North Korea's Telecom delegation is planning to attend the first Beijing DX Convention which will be held in October. While in Beijing, the North Korean delegation will observe Amateur Radio operations at BY1PK. They will also meet the IARU Liaison, Mr. Chen Ping, BZ1HAM, who recently attended the International DX Convention in Visalia, California (see page 12).

Details on HF data

The FCC has released its Report and Order in PR Docket 94-59, concerning HF digital communications in the Amateur Radio Service. The new rules, effective 1 July, 1995, permit automatically controlled HF RTTY and data stations to communicate with one another in the following segments: 28.120 to 28.189, 24.925 to 24.930, 21.090 to 21.100, 18.105 to 18.110, 14.095 to 14.0995, 14.1005 to 14.112, 10.140 to 10.150, 7.100 to 7.105, and 3.620 to 3.635 MHz.

The new rules also permit manually controlled stations to initiate communication with automatically controlled HF RTTY and data stations. In this case the automatically controlled station may use any frequency authorized for such emissions, but may occupy a bandwidth of no more than 500 Hz.

The FCC said it recognized the concerns of those who opposed the proposal on grounds that such operation could interfere with other amateurs, but that it believed the provisions adopted would be adequate to minimize such interference.

Scarborough OKed

The DXCC desk announced that the recently adopted DXCC minimum-size rule went into effect 20 April, 1995, when it was publicly announced by the ARRL Awards Committee. The rule will apply only to country petitions received by the DXAC on or after that date. The petition for Scarborough Reef was in the hands of the DXAC before 20 April. For that reason, the rule will not be applied by the DXAC in its deliberations and voting on the Scarborough petition. (Contact Bill Kennamer, K5FUV, ARRL Hq). —*QRZ DX*

Call sign relief

Call sign relief is here. That's what the FCC says in a new fact sheet dealing with an ARRL request for additional call sign availability to amateurs in Hawaii, Alaska, and Puerto Rico has been honored. The new fact sheet incorporates changes that the League asked for in November 1993. It expands the opportunities for amateurs in Alaska, Hawaii, and Puerto Rico to obtain call signs that reflect their geographic location.

According to the FCC, all systematically assigned call signs in Groups A, which is the Amateur Extra Class, and C the General, Technician, and Technician Plus class for Alaska, Hawaii, and Puerto Rico using the traditional numerals 7, 6, and 4, respectively have been exhausted. Because of this, call signs in Region 11 which is Alaska, all AL, KL, NL, and WL are no longer limited to the numeral 7. In fact, any numeral, Ø through 9, is now available. There is one exception. The KL9AA through KL9KHZ are being held in reserved for assignment to US personnel stationed in Korea.

In the Caribbean which is Region 12, all KP3, NP3, and WP3 or 4 prefix call signs will indicate the Commonwealth of Puerto Rico except for Desecheo Island. Out to the west, in Hawaii and the Pacific known as Region 13, there AH7, KH7, NH7, and WH7 or 6 prefix call signs will indicate Hawaii. The exception here is that the letter K following the numeral 7 will indicate Kure Island.

The new fact sheet also designates Group D call signs for club and military recreation stations, applications for which have been accepted by the Commission since 24 March, 1995.

IRTS news service

A new on-the-air ham radio news service has taken to the airwaves in Ireland. The broadcasting of Irish Radio Transmitting Society News in the Gaelic language began about a month ago. The IRTS newscast airs Sunday afternoon at 2:00 p.m. local time on 3.975 MHz. The bulletin also features a call-in segment after the news. Anchor for these newscasts is EI6GS.

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Worldradio (USPS 947000) is an international conversation. You are 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 emphasize the positive aspects of this great activity, and desire your contributions dealing with dramatic, personal and humanitarian uses of Amateur Radio.

Worldradio is an independent magazine not affiliated with any other firm, group or organization. Its pages are open to all.

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PUBLISHER'S MICROPHONE

People magazine just did its special issue dedicated to the "50 Most Beautiful People." HAH! We now present REAL people. The latest to join the ***Worldradio*** SuperBoosters (Lifetime Subscribers):

•John Wilcox, NS1Z, Rumford, ME

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•Lee Stanford, KM6LA, Fremont, CA

•G. E. Staudacher, KI6CG, Grass Valley, CA

•Richard Freeman, KE6DIF, Shingletown, CA

Robert Mawdsley, N8FTT, (who doesn't have to travel far to get to the biggest show in Amateur Radio as he lives right in Dayton) wrote "I do enjoy ***Worldradio*** — I've taken it for a number of years. Many of the articles have a "down home" feel or personal appeal that isn't found in a number of other ham radio publications." He also compared us to another publication (the name of which we'll delete) that listed the telephone number of the FCC incorrectly and we had it right.

Much fuss has been made in certain quarters about the fact that the U.S. Coast Guard has dropped CW.

However, another service organization has kept CW, and according to them, has no intention of dropping it, as it is very important to them. That group is U.S. Army Special Forces. Before one can even qualify for Special Forces one first goes to Airborne (paratrooper) training, then to Ranger school prior to actual SF training.

•

Once again, as we have for well over two decades now, ***Worldradio*** reporters went to the International DX Convention which is now held in Visalia, CA. It's a great event! Anyone interested in DX owes it to themselves to at least partake of occasional attendance. You will rub elbows with the top rank of DXers and contesters from all over the world.

But, as interesting as the slide shows put on by the hardy DXpeditioners are, there is one facet missing, and oddly enough, it is the very mode of this activity SOUND! When we are in our shacks trying to get through the pileups....when the DXpedition is trying to hear through it.....it is all AURAL!

Except for the TV gang, for the rest of us Amateur Radio is what we HEAR! Photographs and slides are nice indeed, but any true record of an Amateur Radio event (as presented to a gathered audience) without SOUND is quite incomplete.

At DX gatherings various momentos are auctioned off to help pay the horrendous costs of the trip. The greatest momento for many would be a recording of themselves (considering the ego level of most DXers) busting through the pileup. A few small tape recorders would not be overly burdensome when one considers the massive amount of material taken already. There are machines that will put a six hour recording on one side of a tape. It is the AUDIO that makes Amateur Radio what it is.

•

Do you know a really top-flight amateur who should be reading ***Worldradio*** but doesn't? Send me their name and address and I'll send them the very next issue, free.

•

In the history of Amateur Radio there are few indeed who put as much back into it as did the late Lenore Jensen, W6NAZ. A human dynamo (no exaggeration) she worked tirelessly with the media to obtain positive publicity for Amateur Radio. That was in addition to the monumental 50,000 phone patches she ran for our service personnel.

We've just published her book "Inside Amateur Radio." The chapter headings are: Disaster and emergencies, Phone patches, Wartime, Medical assistance and Personal anecdotes. This book of funny occurrences and heart-warming tales would make a great gift for the person thinking about joining our ranks.

If you have been trying to recruit a friend, give them this book. If you are an old timer this book will give you a good feeling that you have been a part of something this wonderful.

The price is only $9.00 and $2 for the Post Office and handling (Suffering 6s please add 70 cents tax.) Our address is above. Visa, MC, AMEX are happily accepted.

—Armond, N6WR

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- Multiple Scanning Modes
- 3 Selectable Scan Stop Modes with Scan Skip
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- Cross-Band & One-Way Repeat Functions
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Aftermath

(continued from page 1)

coax and necessary adapters, portable antennas like the twin lead J-pole, sealed lead acid batteries and power cables, etc. Such a kit should be kept in the car to be available whenever a disaster might occur.

Frank kept area radio operators informed of needs by all the communications media available to him. In addition to the HF and VHF FM announcements, he posted bulletins that were circulated on area packet radio bulletin boards. These bulletins informed additional volunteers how to register for a shift, and advised them of the stringent identification badge procedure imposed by the FBI.

•

Oklahoma Comm Center proprietor, Craig Boyer, AH9B, took action that resulted in the donation of a considerable amount of radio equipment to help in the disaster and stock the disaster equipment available for the Salvation Army to use in the future. Oklahoma Comm Center donated two Icom IC-2000H radios, two Larsen magnetic mount antennas, and two 20 ampere Astron power supplies. Craig also contacted manufacturers which generously donated equipment. Icom America sent an Icom IC-2000H, Kenwood Corp. sent three TM-241A radios, Alinco Electronics sent three DR-112 radios, Kantronics sent two KPC-3 packet TNCs, and NCG Company sent five Power Pocket sealed lead acid battery sets.

The equipment was quickly dispatched to the field and, after operations were terminated, stored in the Salvation Army Emergency Operations Center for use in future emergencies.

Additionally, numerous Amateur Radio operators loaned their personal radio equipment, antennas, generators, and various components to assure emergency operations remain uninterrupted.

•

ARRL Public Information Coordinator Tom Webb, WA9AFM, prepared packet radio bulletins to keep Oklahoma amateurs informed of progress.

He also provided ARRL with information that was disseminated in ARRL Bulletins, and provided local newspapers with information regarding Amateur Radio operators' activities. When contacted three weeks after the bombing he reflected that one thing that would have helped in this, and maybe in future disasters, is a uniform photo ID that could be carried by prepared Amateur Radio operators. Law enforcement, fire officials, and disaster service organizations could be informed of the IDs existence and purpose, thus possibly enabling qualified Amateur Radio operators to more easily enter disaster areas.

During early relief efforts, technical skills of volunteer hams were put to the test when it was determined the buildings in the downtown area were blocking radio signals. A mobile repeater station was established at a Salvation Army canteen allowing communications to be sent and received easily.

Over 80 Amateur Radio operators per day, working in eight to twelve hour shifts participated in relief efforts. Most were from the local Oklahoma City area; however, offers of assistance came from all over Oklahoma. Hams from Texas, Arkansas, and Kansas, offered to come to Oklahoma City to assist. Hams from as far away as New Jersey and California offered their services to handle health and welfare traffic.

At 4:00 p.m. Tuesday, 2 May, the Oklahoma County ARES network operating in support of recovery efforts in Oklahoma City was closed. The network had been in continuous operation since 9:15 a.m. 19 April. Amateur Radio operators maintained emergency communications for over 330 hours through a local repeater station built and operated by the Oklahoma City Autopatch Association (OCAPA). KWTV (Channel 9), a local television station, provided the space on their tower for this vital public service communication link. Additional localized operations were maintained in the downtown area until 12:30 p.m. 4 May, 1995. Amateur Radio activity totaled over 367 hours of continuous on-air operations.

More than 330 radio amateurs supported this operation, working over 5,500 hours in support of the relief effort.

Amateur Radio operators credit numerous practice disaster drills, local Amateur Radio networks, emphasis on correct on-air procedures, and experience in severe weather spotting as the basis for this outstanding effort. Ironically, the Monday evening before the explosion in downtown Oklahoma City, the year's first severe weather spotting network was activated putting 23 Amateur Radio weather spotters into the field.

A common question is now asked in Amateur Radio circles throughout North America concerning emergency operations: "Does this meet the Oklahoma City standard?" WR

Lt. Stan Van Nort, N5JFQ, at OK City police command post during bombing rescue & recovery.

Hero

(continued from page 1)

City Police Lt. Stan Van Nort, N5JFQ, was one of the major prize winners.

From the first minutes following the bombing, Lt. Van Nort was at the scene, supervising the Oklahoma City Police Command Post. Within the hour, he was joined by two amateur radio operators in the command post who maintained vital support communications in the critical hours following the bombing. "Within a few minutes after the command post was in operation, a local amateur radio operator arrived as a volunteer to serve as our command post contact with an area disaster net on 2 Meters." Van Nort noted. "Within the hour, a familiar face, Joe Lynch, N6CL, arrived and assisted with Amateur Radio communications. It was good to be working with Joe, someone I knew well. As the first day proceeded, I frequently relayed information requests from police communications to amateur operators in the

Command Post. This was a great help because it freed me up to handle very demanding police communications," Van Nort added.

A licensed amateur since 1976, Stan Van Nort has been a member of the Oklahoma City police department for 22 years. His son, Aaron, KB5WII, is a middle-school honor student and soccer player. Both father and son are regulars at the annual Dayton Hamvention.

For seven days after the bombing incident, Lt. Van Nort worked twelve-hour shifts as one of the command post supervisors. Among his many responsibilities was controlling perimeter access: obtaining special identification and working with the FBI to determine access to the disaster site.

Reflecting on the efforts of Amateur Radio to respond to the event, Lt. Van Nort stated: "The weekly and monthly emergency amateur net practice sessions are important preparation and I recommend that amateurs maintain this training. Being prepared and being ready are very critical during the first hours because local telephone and cellular phone communications were saturated and were ineffective for all emergency communications."

Van Nort explained that during the first hours following the disaster, local telephone circuits were flooded with calls, both essential and non-essential. As on many other occasions, Amateur Radio in Oklahoma City was a vital resource for emergency communications. During the initial hours after the bombing, routine communications were overwhelmed—even with the advent of cellular phones.

Another important lesson according to Lt. Van Nort is the necessity of working closely with the public safety sector prior to an emergency: "Amateur Radio groups need to maintain a close working relationship with local public safety officials so that they are known to these officials and given quick access when the time comes." For Van Nort, part of the successful liaison between public safety and Amateur Radio was the fact that he knew many of the local Amateur Radio licensees and could establish their credentials to gain access to the disaster site.

A final significant, and painful, lesson according to Van Nort is this: "We certainly didn't expect anything of this magnitude to occur in our community." No community is safe from such wanton acts of violence.

Asked what else he would add, Stan Van Nort said this: "Thanks to the Amateur Radio community for a job well done!" WR

NEWSFRONT

EMF and cancer

The Council of the American Physical Society (APS) has issued the results of a study entitled "Power Line Fields and Public Health," concerning the potential dangers of cancer from electromagnetic fields that emanate from common power lines and electrical appliances.

The APS concluded that "the scientific literature and the reports of reviews by other panels show no consistent, significant link between cancer and power line fields" and "the preponderance of...research findings have failed to substantiate those studies which have reported specific adverse health effects from exposure to such fields.

"While it is impossible to prove that no deleterious health effects occur from exposure to any environmental factor, it is necessary to demonstrate a consistent, significant, and causal relationship before one can conclude that such effects do occur. From this standpoint, the conjecture relating cancer to power line fields have not been scientifically substantiated."

The APS said that billions of dollars are being spent by states and municipalities to mitigate and litigate this perceived problem and "the burden of cost placed on the American public is incommensurate with the risk, if any." *—tnx ARRL Bulletin*

Antenna ordinance

The Los Angeles County Board of Supervisors passed a very favorable antenna tower ordinance with help from area hams.

The Tri-County Amateur Radio Association, Los Angeles Council of Amateur Radio Clubs, ARRL officials, and County Disaster Communications personnel, worked with the Los Angeles County Planning Department to rewrite the building code regarding ham radio antennas and towers. Prior to the Northridge earthquake the code would allow roof mounted towers over 35 feet tall, but would not allow ground mounted towers over 35' without a costly variance (over $3,000).

Tri-County's Antenna Ordinance Committee had proposed changing the code before the earthquake, but progress was slow. Soon after the disaster, the County realized how beneficial ham radio was and that changes to the code could prevent a possible earthquake hazard, and progress on the new ordinance gained momentum.

The new ordinance contains the following provisions: a basic building permit is all that is required for a ground mounted, retractable tower that is 75 feet maximum height (including mast) when extended, and retracts below 35 feet when not in use. It must be motorized, and have a manual back-up mechanism for lowering. The ham is also allowed one vertical antenna over 35 feet tall. No permit is needed for any antennas less than 35' in height.

If the tower does not meet the requirements, the ham can apply for an "Amateur Radio Antenna Permit" which costs about $317 and is a form of variance. Any person who wishes to contest the variance must pay about $282 for a planning review, which would help stop frivolous objections to the variance. *—tnx Tri-County ARA*

ASUSAT-1

A group of Austrian students are hoping to put a 10 pound satellite in a low earth orbit but the team is having problems locating reliable transmitters and receivers. Specifically needed are a space worthy 435 MHz transmitters with receivers for 435 MHz and 145 MHz equipped with 9600 baud FSK modems. Contact riker@asu.edu

(more on page 21)

The FCC Forum at Dayton

Your reporter did not make Dayton this year. The FCC Forum offers a unique opportunity for information from the Commission, and so this month we are giving it the space we think it deserves via ***WR's*** *Norm Brooks, K6FO—W4ZC.*

•

Sunday, April 30, 1995 the FCC conducted a forum at the Dayton Hamvention.

John Johnston, W3BE, thanked the Hamvention committee for making it possible for him and William Cross, AA3DI, to be there. He said "they (Dayton Amateur Radio Association) do pick up our expenses, and we appreciate that." (Unhappy taxpayers please note!)

The FCC's new organization came out as Johnston said he and Cross worked on "rule making for the Wireless Telecommunications Bureau, Private Wireless Division of the FCC in Washington, DC" He asked that we note they are not with the Compliance Information Bureau, which handles all radio enforcement matters, and neither are they from the new International Bureau which does get involved in Amateur Radio matters, nor are they with the Office of Engineering Technology which handles Amateur Radio frequency allocation matters. He brought up those latter facts because so many amateurs think his group handles everything pertaining to Amateur Radio at the FCC.

Johnston summarized last year's accomplishments of the FCC to include transfer to a PC based licensing system. The FCC held its first spectrum auction which raised more money "than three times the FCC budget, forever." As a result everyone got a brand new PC on their desk. It was a good year for Amateur Radio with a gain of 47,000. Rules for vanity call signs were adopted, electronic filing to the data base came on line to speed licensing of new applicants. There were new rules for automatic message forwarding and automatic control of HF stations. Amateurs were advanced to Primary on the 13 centimeter band and we obtained more frequencies on the 1¼ Meter band.

"You make this all possible," Johnson stated, because "the FCC has no master plan for the Amateur Service." It all comes about primarily from Amateur Radio operators' petitions and comments.

As in previous years, Johnston again chided us for the great number of petitions we send in asking for changes in the rules. Do we really need or want the government to make more rules for us? We amateurs seem to handle the technical part of our activities exceptionally well, but we have difficulty with the operating side. Perhaps we act too quickly in asking for rule changes. If we are thinking of a change in rules, we should read Part 97 in its entirety. Perhaps it's already covered. We should discuss it with friends and people whose judgment we respect. Bring it up at club meetings to see how others feel about it. Put it on the Internet for comments from people we don't know. Then, and only then, should we file a Petition for Rule Making with the FCC. Johnston assures us that the rules won't change until the amateur community convinces itself and the FCC that a change is called for.

Bill Cross then reviewed some recent accomplishments of the FCC which included what everyone seemed to want to hear about: Vanity Call Signs.

(Note: The term "vanity" did not come from the Amateur Radio community. The term was devised by Congress.) Now that Congress has passed legislation authorizing the collection of a fee of $7 per year ($70 for the 10 year term of an Amateur Radio license) for the issuance of a vanity call sign, and the licensing division at Gettysburg has obtained the computer capability of issuing such call signs, the FCC can now go ahead with administering the system. They had asked what kind of system we wanted and received 109

Amateur Radio Call Signs

Amateur Radio operators often ask the FCC what call signs have been assigned lately. This list shows the last call sign in each group to be assigned for each district, as of the first of May1995.
For more information about the call assignment in the Amateur Radio Service, see Section 97.17(f) of the FCC Rules, or write to the FCC, Consumer Assistance Branch, Gettysburg, PA 17325-7245.

Radio District	Group A Am Extra	Group B Advanced	Group C Tech./Gen.	Group D Novice
Ø	AAØXH	KGØWA		KBØSIT
1	AA1NB	KE1BK	N1UZB	KB1BQA
2	AA2XG	KG2CN		KB2ULC
3	AA3LK	KE3SY	N3VEA	KB3BHX
4	AE4HK	KS4VU		KE4ZNV
5	AC5CG	KK5NW		KC5OEV
6	AC6ML	KO6UK		KE6TKU
7	AB7JU	KJ7NE		KC7KRF
8	AA8TL	KG8QY		KB8ZEI
9	AA9ON	KG9CB		KB9KFO
N. Mariana Is.	KHØR	AHØAW	KHØDW	WHØABC
Guam	WH2O	AH2CZ	KH2NM	
Midway Is.		AH4AA	KH4AG	WH4AAH
Hawaii		AH6OC		WH6CVA
Amer. Samoa	AH8O	AH8AH	KH8CG	WH8ABB
Alaska		AL7QB		WL7CMN
Virgin Is.	WP2R	KP2CD	NP2IF	WP2AHV
Puerto Rico		KP4ZK		WP4MYB

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comments. The commenters' greatest concerns were that the plan be fair and equitable. As a result the FCC set up 4 gradually timed gates.

Gate 1 would open call sign selection to a few thousand prior holders and close relatives of deceased prior holders of any particular call sign. This first gate should create enough activity to validate the effectiveness of system procedure and alert the FCC to any needed adjustment in the procedure. Subsequent gates will not be opened until it is clear that the system will be ready to accommodate the larger number of forthcoming applications.

Gate 2 will allow Extra Class operators to apply.

Gate 3 will allow Advanced Class operators to apply, and Gate 4 will allow all others. Gate 4 also includes trustees of club stations. Opening dates in each case will be announced by public notice. The big question on everyone's mind right now is when will Gate 1 open? As of now, the FCC has received five petitions for reconsideration. These petitions include objections to an amateur obtaining a call sign from a region different from the applicant's mailing address. There were also objections to obtaining a call sign of a deceased close relative where the call sign designates a higher license class than that held by the applicant.

Also, a provision is wanted to allow clubs to come in at an earlier date with a letter from a relative of the deceased call sign holder. If the decision is to revise the rules that were already adopted, the Form 610-V, which is now in the Office of Management and Budget getting approval may have to be revised. Also, the specifications for the support software at Gettysburg may have to be changed. In any event, the first gate will not be opened until the rules are finalized, Form 610-V is made available and the software is made ready to process applications. There was no indication as to how long this would take. The FCC will continue to operate the existing sequential call sign system for new hams, and for those who do not want vanity call signs.

Cross announced some changes in the existing sequential call sign system for Alaska, Hawaii and the Caribbean region. Alaska prefixes have always been AL7, KL7, NL7 and WL7. Now numbers 1 through Ø will also be used, with an exception. Thus AL1, KL2, NL3, WL4, etc. would mean Alaska. The exception is that the block of call signs KL9KAA through KL9KHZ will be reserved for issuance to US military personnel located in Korea.

Hawaii now has the prefixes AH6, KH6, NH6, and WH6. These will be augmented by the use of numeral 7. Thus AH7, KH7, NH7 and WH7 will also indicate Hawaii. Kure Island had the prefix KH7, so provision is made that the first letter K in the suffix following the 7 in any "Hawaiian" call sign would indicate Kure Island. For example, KH7KA would be a Kure Island call sign.

In the Caribbean, the prefixes KP4, NP4 and WP4 will similarly be augmented by the numeral 3. Thus KP3, NP3 and WP3 will indicate Puerto Rico. Desecheo Island KP5 remains unchanged.

One closing note from your reporter. John Johnston reminded us that he and Bill Cross represented only the rule making group at the FCC. Not represented at the Hamvention are FCC's Enforcement, International or Engineering groups. Next to Rules, I believe amateurs would like to hear from the Enforcement people. Perhaps next year Johnston could bring along a representative who could fill us in on enforcement activities. Then again, I wonder if he could find so brave a soul, especially since the ARRL recently branded the FCC's Amateur Radio enforcement as "Dismal!" WR

Moved? Tell the FCC !

FCC licensees must keep their correct address on file with the Commission. Mail to a license holder which is returned to the Commission marked "addressee unknown," "forwarding order expired," etc., is sufficient grounds for immediate revocation of an Amateur Radio license.

If the address on your ticket is different than your present address, file a form 610 to inform the Commission of the change.

To request a form 610, call the FCC, toll free, at: 800/418-3676. Mail the completed form to:

Federal Communications Commission
1270 Fairfield Rd.
Gettysburg PA 17325

For other customer assistance, the FCC may be reached at 800/322-1117 weekdays before 4:30 p.m., Eastern time. WR

46th Annual International DX Convention

John Minke, N6JM

DX Forum

A main attraction of the Visalia DX convention is the Saturday morning DX Forum, this year coordinated by Jack Troster, W6ISQ, of the Northern California DX Club. The panel included such well known DX personalities as Bill Kennamer, K5FUV, from ARRL headquarters in Newington; Jim Maxwell, W6CF, Pacific Division Vice Director; Chod Harris, VP2ML (aka WB2CHO), Editor of *The DX Bulletin*; Dick Moen, N7RO, Northwest Division representative of the DXAC; John Alexander, K6SVL, Southwest Division representative of the DXAC, and Jack, W6ISQ, the Pacific Division representative to the DXAC. Jack introduced K6SVL, the newest member to the DX Advisory Committee.

A summary report of the DXAC was given which included that of the status of Pratus Island, which would be voted on in June, the Kingdom of Mustang, and Scarborough Reef. There is also a proposal to delete Hawaii, Alaska and Aruba as DXCC countries. Then there was that "minimum-size" rule that was adopted by the ARRL awards committee, where the committee had voted 5 to 2 on the DXAC recommendation on a minimum size (refer to "DX World" for the full text of the change). Attendees were amused at the statement "rocks which cannot sustain human habitation shall not be considered for DXCC country status," drawing one remark that such a rule would eliminate Manhattan Island.

Bill, K5FUV, said that he would like to see the DXCC criteria return to what DeSoto had set up in 1937 and not have to explain what a "country" is to your neighbor. Jim, W6CF, suggested that the floor be asked their input on this minimum size requirement. Seven appeared to be in favor of the limit and the rest for no limit at all.

Visiting Japanese DXer Kan Mizoguchi, JA1BK, then spoke out, "What about maximum size? United States, Canada, Russia, and Australia are too big!" Bill, K5FUV, reported that the DXAC vote on the minimum-size issue was 11 to 4 in favor.

Jack, W6ISQ, said this item was discussed heavily for a long time, and wasn't exact about who the opposing votes were. Those on the Awards Committee who favor this rule change are Billy Lunt, KR1R; Charles Hutchison, K8CH; Peter Butnik, KB1HY; Dean Straw, N6BV, and Mark Wilson, AA2Z. Those who opposed it were Naoki Akiyama, NX1L, and Steve Ewald, WV1X. And, there also seemed to be a recollection of this issue at Dayton last year that the majority were in favor of a size limit. As this item will be brought back to the DXAC, John, K6SVL, wanted some input from members in his division prior to voting on the issue. Dick, N7RO, said he favors no minimum size. The remaining panel members had no comments.

DXpedition slideshows

Immediately following the DX Forum, two slide presentations were given. The first was that of the 1994, 3DAØZ DXpedition to Swaziland by Dick Norton, N6AA, and Art Goddard, W6XD. Dick said that he likes to operate from a different zone each year, this time being that of Zone 38.

The DXpedition was a success with 6472 contacts, 132 zones, and 430 multipliers for a score of some 10.5 million points in the *CQ* Worldwide DX Contest. A total of seven operators participated.

The second presentation was the recent 3D2CT/3D2CU DXpedition to Conway Reef, narrated by Garry Shapiro, NI6T. Garry said the original plan was to go to Canton Island, but problems forced them to change to Conway Reef instead. One of the main objectives of the DXpedition was to work the Europeans, as many of those DXers still need this DXCC country. Five operators plus a YL, Peka's girlfriend, made the trip to Conway. This was the DXpedition that ran into landing problems. The landing craft capsized, dumping equipment and operators in the surf. Included were the six flags to represent the countries of the

Jack, W6ISQ (left), and Chen, BZ1HAM, during the DX Forum.

operators present. The situation was dubbed "Six Flags Under Conway." A total of 5000 Europeans made the log.

Contest Forum

The last session of the day was that of the Contest Forum, with Bob Wilson, N6TV, of the Northern California Contest Club, as the coordinator. This year's panel consisted of the usual contest leaders who attend Visalia: Mark Beckwith, WA6OTU; Dick Norton, N6AA; Bob, N6TV; Fred Laun, K3ZO, and Jim Neiger, N6TJ. As in the past, several questions were presented to the panel for their opinion, with the coordinator asking for a vote at the end of each discussion.

The first item was that of the multi-transmitter, single-operator class, in which a new category "multi-single" would be added. Dick, N6AA's opinion was that he thought this type of operating was illegal (simultaneously transmitting on more than one band). It was clarified that this was not the case. The single operator would be running more than one radio at a time. It was felt that if he could operate that way, more power to him.

The next item was WRTC (World Radiosport Team Championship) portion of the goodwill games to be held in Washington, DC, in 1996. The proposed rules require published scores of selected radio contests to establish eligibility of a contestant to represent his country. It was felt that other scores should also be considered, (Sweepstakes of operators from the United States and/or Canada). Fred, K3ZO, had the most logical solution to this, which was to allow each country to decide on its own. Bob then took a vote to see which each panel member thought would be the most important contests to use in this selection. Bob said the right answer (which none listed) was the IARU Contest, which will be taking place at the same time.

Another item was that of reducing the DX window size during the ARRL 160 Meter contest. There are right ways and wrong ways of using the windows, and there would be no fair way of enforcing it. Jim, N6TJ, felt that all windows should be abolished.

The questions and complaints from the floor, some serious, and some not so serious included the following:

- When will the ARRL allow DXpedition scores to be credited with the club scores? This item is presently in committee (CAC) right now.
- What about a Senior Citizen category, 75 years and older?
- Sweepstakes should be limited to 100 watts or less. This one would be too hard to enforce.
- How do you handle a false claim by a single operator that had been heard by other contestants on other bands at the same time?
- The WPX scoring on 40, 80 and 160 Meters is an unfair advantage to those stations operating on the east coast.
- Dick Zalewski, W7ZR, who just recently retired from the Portland area to Mexico, would like to see Mexico added as a multiplier to Sweepstakes. Dick now signs with XE2DV.
- Should 6 Meters be added to the Worldwide and ARRL DX contests? The response to this was favorable.

The forum was concluded with the recognition of Jenny, KD6KKP, for her achievement of completing 600 contacts during the last Novice Roundup. Jenny is only nine years old!

Some people might question how a contest forum contributes to a DX convention. That's a good question as much of the material doesn't necessarily relate to DX. However, remember that most contesters are DXers. WR

The Visalia HF mobile antenna "shootout"

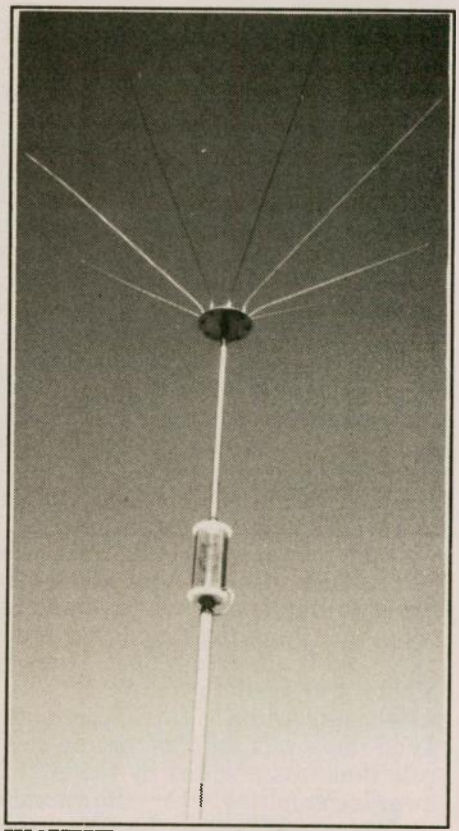
Jerry Levy, KO6AN

What would you do if you were driving to the Visalia International DX convention and wanted make HF contacts in the car and didn't know a thing about it? Go to the 1995 Visalia International DX Convention HF mobile antenna shoot out of course!

There are so many options facing the new HF mobiler, that frankly I was a little confused about the possibilities. I wanted to make sure that I could choose a system that would fit my needs and didn't have me drilling holes all over my car just to find out that it didn't work well or that I didn't like it. Enter Jessie Tbuhey, W6KKT, with a passion for HF mobile radio since 1955. Jessie organized a HF mobile antenna "shootout" at this year's DX convention in the shadow of the granddaddy of mobile antennas, a trailer mounted 120 foot tower parked next to U.S. Towers annual Bar-B-Que.

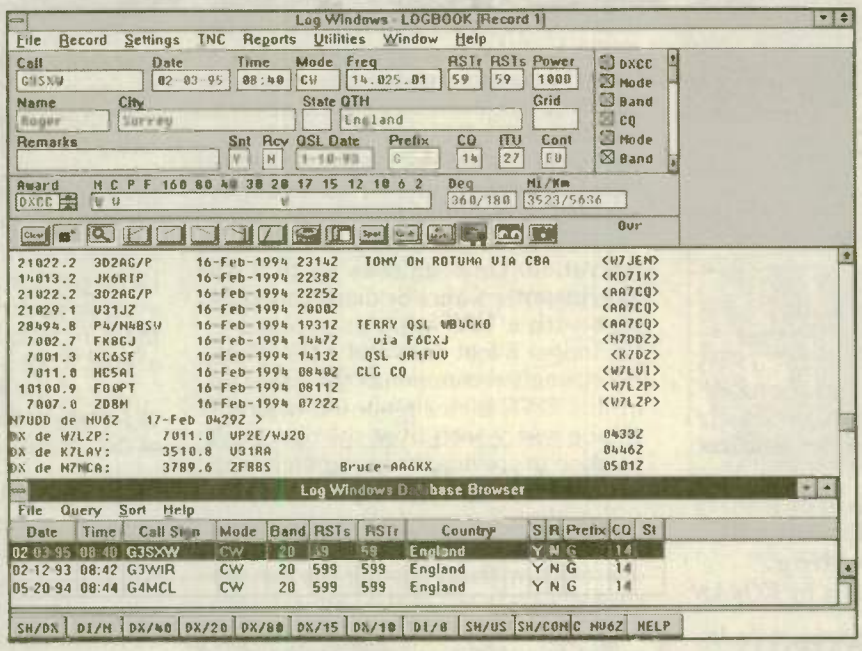
Ten hams drove the vehicles to the same spot to test their antennas against everyone else in a scientific test to see who radiated the most power from their set up. The rules were simple, power out- 50 watts measured in line with the antenna with an RF 3000 meter, no antenna greater than 13'6" in height and the set up had to be truly mobile (i.e. operational at highway speeds). The readings were taken by a custom Signetics Devices field strength meter across an open field one half mile away. Each contestant's 50W carrier was received on a ferrite magnetic antenna, run through a preamp and read out on an digital volt meter for its relative

(please turn to page 14)



W6KKT custom coil and capacity hat.

Save a Tree.



Do your logging on a computer.

Are you one of those poor saps still keeping a paper logbook? Are you stumped about what to do? You need Log Windows 2, the logging software that takes the paper out of doing paperwork.

Log Windows 2 is a complete Windows program for logging, rig control, antenna rotor control, and DX cluster monitoring, plus award tracking and reporting features.

DX spots are automatically displayed for you. Log Windows 2 lets you move to the designated frequency quickly, log the contact, and then save the information into a log.

Log Windows 2 is completely compatible with PC PakRatt for Windows 2. Now you can have the superior TNC control of PC PakRatt coupled with the advanced logging and tracking functions of Log Windows.

Sort and print your logs by any criteria with the special browser function. Turn your ProSearch, Heath IntelliRotor and Yaesu antenna rotors to the short path, long path or in an arbitrary direction right from the Log Windows' main screen. Update official ARRL DXCC list prefixes with ease. Query on-line call book databases such as SAM, QRZ, or HamCall for a call sign at any time.

Special filters can be set to only display and sound an alarm for DX spots that are needed. There is voice-synthesized DX alert capability which verbally announces the call sign and frequency of a DX.

Moving to Log Windows 2 couldn't be easier with the LW Import program included with Log Windows. All these logs can be easily imported to Log Windows 2: CT, DXLog, Log Master, Easy DX, Hyperlog, DX Base, N6RJ 2nd Op, Log View, DX Desktop, PC PakRatt, and any ASCII log.

Logging and tracking are supported for ARRL DXCC, WAS, VUCC, and CQ Magazine's CQ Zone and US-CA awards. Log Windows 2 also allows users to print QSO labels, print log books, see information displayed by the local Packet Cluster, and change the frequency and mode of the transceiver to the frequency shown by the Packet Cluster. Log Windows 2 doesn't even require an AEA TNC.

Quit lumbering along with your out-of-date log book, get Log Windows 2—the clear-cut choice for managing your logs. Call AEA's Literature Request Line at (800) 432-8873 for more information. Contact your favorite amateur radio equipment dealer for a demonstration and best pricing.

Connect with us

W6MMA prepared his capacity hat modified Broadbander BB3 for field strength testing.

—photos by KO6AN

Visalia "shootout"

(continued from page 12)

strength. Each system was tested 3 times and averaged for consistency. On the line were bragging rights for the 3 commercial screwdriver Broadbander BB3s, the Texas Bugcatcher (and a modified Bugcatcher called the California Bugsmasher), 3 homebuilts with tapped coils, a SuperResonator Hustler and a Hamstick. The results are shown above in decibels. For example a reading of 58.4 is one dB stronger than a reading of 57.4.

Lessons learned? The tunable "high Q" antennas consistently outperformed the nontunable broad banded Hustler and Hamstick. Homebuilts were less consistent with the best unit(with a sophisticated matching network) out performing the field by .5 dB but the last place home brew trailed its commercial counter parts by nearly 2 dB. Jessie has done several additional studies on the tunable antennas with some interesting observations. No one brand of screwdriver antenna is substantially better than the others, but there is a preferred configuration. One achieves up to 2 dB gain in performance by using the 3 foot base with a 102" whip as opposed to the longer 5 foot base and a 60" whip. He strongly recommends the use of an in-line SWR meter mounted where it can be easily seen from the operators position to provide the best match even with changing conditions.

But, there is more to this story than just field strength. For multiple band operation without leaving the car, the clear choice is one of the Don Johnson style (DK-3) tunable antennas that costs about $250 and requires moderately elaborate installations. If you simply wish to try mobile radio without a large investments of time, money or holes in the body of your car then the Hamstick may give you the best bang for your buck. For around $50 you can purchase a magnetic mount and one hamstick and be on the air. I used this arrangement on my trip to the International DX convention and worked seven states, (including Maryland), Canada and Mexico, all with a Solar Flare Index of 74! But hmmm, when the solar cycle gets a little better, maybe I'll want to follow the M.U.F. and switch bands from the car? Maybe that BB3 just might be the ticket for the next trip? Now if I can just figure out how to fill out my log at 55 mph and still be able to read the entry! WR

Entrant	Antenna	Score
W6KKT, Jessie Tbuhey	Coiled homebrew with capacity hat	58.9 @ 50 W
WA6KHM, Sandford Simmons	Broadbander BB3 102" whip	58.4 @ 50 W
WE6A, Robert Selman	DK3-HOMEBUILT	58.4 @ 57 W
K6UMB, Jay Hughes	California Bugsmasher	58.4 @ 52 W
W6MMA, Vern Wright	Broadbander BB3 W capacity hat	58.3 @ 50 W
AH8I, Carl Severa	Texas Bugcatcher	58.0 @ 50 W
KA7W, Tom Wilson	Broadbander BB3 (90 height mod)	57.4 @ 50 W
K6SDQ, Jim Sequine	Coiled homebrew	56.5 @ 48 W
WA6JPR, Wally Linstruth	Super Resonator Hustler	50.2 @ 51 W
WE6A, Robert Selman	Hamstick	48.2 @ 58 W

Merits of Morse

Joe Sabutis, NWØA

Here is a copy of an editorial that appeared in Omaha, Nebraska's *Omaha World-Herald* newspaper on April 4, 1995. It describes Morse code's link with the current information "superhighway." I feel that the article illustrates quite nicely the place that Morse code has in the history of the information revolution. I am currently using this article when I show students in my Amateur Radio classes the place in the FCC's Part 97 rules that outline why Amateur Radio exists, and why amateurs are allowed to keep and use large portions of the radio spectrum, even as government accountants estimate how much revenue can be generated if the amateur bands were sold.

One of the reasons for the existence of Amateur Radio in the United States is to "...maintain a pool of *trained* operators...." (emphasis is mine). I point out that the "trained" not only means in the technical side, but also trained in various methods of communications. It is to an Amateur Radio operator's advantage, as well as the community in which he/she lives, to be skilled in communicating in highly technical methods, such as packet and satellites, and less technical methods, such as Morse code. It is very reassuring to know that I can communicate by touching two wires together, instead of wasting time looking for a microphone or power to run a computer packet station when a disaster strikes. It is also comforting to know that there are some people, the "*trained* pool of operators," who will be ready and *able* to receive my messages, if the need exists.

I fully support the current "no-code" amateur license, although I feel that the question pool for element 3A does not adequately test on the technical background. The creation of this license class increased the number of Amateur Radio operators by not only introducing younger people in to the hobby, but also people who were too busy with work or family to find the time to learn the code.

As for myself, I would never really consider myself a *real* member of the fraternal organization of amateur operators unless I knew Morse code. By this I mean that I could never consider myself on the same level as the great men and women pioneers whose only option was to use Morse code to communicate. All that separates the "no-code Techs" from these pioneers is the

ability to recognize and assign meaning to a mere 43 different sounds. I hope that code remains a part of the requirement to become an amateur. Although communication by Morse code may be considered by some to be technologically outdated, it would always be needed to become a *fully trained Amateur Radio operator.* WR

Internet's first words were dah dah

Dididit-dah-dah-dah-dididit. To generations of military and civilian radio operators, that was he sound of a ship or plane in trouble, a downed pilot or an infantry squad trapped behind enemy lines.

Three short bursts followed by three longer bursts and three more short bursts. The Morse code letters S-O-S. Emergency.

The use of the code to send a message under difficult conditions was a tribute to its versatility. Railroad telegraphers used it to communicate across vast distances from the 1860s onward. The *Titanic* used it to fling out a desperate appeal for help in the North Atlantic in 1912. Although devised by Samuel F.B. Morse in the 1830s to send messages by telegraph, which he was trying to perfect at that time, the code was adaptable to a variety of other vehicles.

Coded messages could be sent by means of flashes of light, blasts of a horn or bursts of sound through a radio transmitter too weak to transmit intelligible human speech. In North Vietnamese prisons, captured American pilots used a spoon or stick to tap Morse code messages to prisoners in nearby cells.

In the 1990s, satellite communications, computers and fiber optics have largely pushed the Morse code aside. Its diminishing role was illustrated last week when the U.S. Coast Guard decided to turn off its emergency Morse code equipment. The Coast Guard receive only two S.O.S. messages in code last year. This year's total so far: zero.

But the Morse code lives on, kept alive in part by radio clubs whose members take pride in sending and receiving messages with the skill and polish of the old-time telegraphers. What they do might seem primitive to the Internet generation. It shouldn't seem that way. These are the guardians of a significant tradition.

Before the Morse code and the telegraph, man's ability to communicate beyond the horizon was restricted by such things as the speed of his horse or the strength of his own legs. Signal fires were of little use by daylight; smoke signals were useless by night or when the wind was too strong.

Much changed in 1844. A telegraphed message from Washington to Baltimore heralded a new era with the words, "With hath God wrought." For the first time, people could communicate instantly over the miles, exchanging messages with people in other states and eventually other continents.

Human communication had entered the realm of electronics. Most of the communications breakthroughs of the succeeding 150 years have merely been refinements of that dramatic concept.

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Call plates and a stolen car

Richard M. Stuber, N6LGO

What a shock to watch your vehicle driving away without you! This happened to me on 13 April, 1995 at 10:45 p.m. I was at work, and saw my car stolen less than 70 feet away from me! While giving pursuit with my coworkers and using a cellular phone, I dialed 911 to report the theft to the police with expectations of a quick response.

This is where the real problem began. I was connected to the North Hollywood (California) police station, but the officer could not find my car's license plate in the Department of Motor Vehicle computer data base. Incredible! My vehicle has been registered in this state for the last three years.

I could not understand why my vehicle would not show up. I gave the officer the license plate number, (an Amateur Radio plate), and my full name. Still no luck. This resulted in a further wait of forty minutes while I was driven home and looked up the vehicle identification number for the officer.

Now the vehicle could finally identified, and be broadcast as stolen almost an hour after the initial call.

The next day I began my own investigation as to why the police could not find my vehicle in the computer system. I started at the DMV reasoning that some flaw was in their system, however I soon learned that the problem is with the way in which the plate number is entered into the computer.

Most people are unfamiliar with how Amateur Radio plates should be reported, and obviously the various police agencies do not always know how to enter them into the system either. Look at your registration and note the space between the prefix and suffix of your call. Mine is N6 LGO; but I reported the plate as N6LGO. The State of California uses this method to distinguish these plates from personalized plates.

If your state issues Amateur Radio license plates, check with your motor vehicle department, and ask them to tell you how the plate should be entered into the system, should the car be stolen or involved in an accident. This may very well save you some frustration, and will help in the recovery process if the circumstances are similar to my experience.

My next question to the DMV was why a search of the data base using my name did not locate the information when the officer tried to do so. They demonstrated the process for me, and I was shown that the information could certainly be obtained by a name search. Who knows....

My vehicle was recovered in relatively good condition on 15 April, 1995. I urge you to check on how your state enters call plates in its computers, before the need arises. It could save you valuable time in an emergency. WR

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MFJ's exclusive *RF Resistance Meter™* lets you measure RF resistance up to 500 ohms at minimum SWR.

Has built-in 10 digit LCD frequency counter and smooth vernier tuning.

You get *four* instruments in one . . . 10-digit frequency counter . . . RF signal generator. . . SWR Analyzer™. . . *RF Resistance Meter™*

Measure antenna resonant frequencies and 2:1 SWR bandwidths. Adjust mobile antennas, antenna tuners and matching networks in seconds.

Measure RF resistance, inductance, capacitance, resonant frequency of tuned circuits, transmission line velocity factor /impedance/ loss. Test RF chokes,baluns.

MFJ-209, $109.95, same as MFJ-259 less frequency counter and *RF Resistance Meter™*

See *free* MFJ catalog for complete line of MFJ SWR Analyzers™.

MFJ-949E 300 W Tuner

MFJ-949E **$139.95**

World's most popular antenna tuner covers 1.8-30 MHz, has lighted *peak/* average Cross- Needle SWR/ wattmeter, 4:1 balun for balanced lines and *full size* 300 watt dummy load.

Versatile 8 position antenna switch lets you *pre-tune* MFJ-949E into dummy load to minimize QRM.

Custom inductor switch was carefully engineered to withstand extreme voltages and currents.

Cabinet is chemically etched to MFJ's bond tough *baked-on* paint.

VHF/HF Packet TNCs

MFJ-1270C **$119.95**

MFJ-1270C *super* TAPR TNC clone has a world wide reputation as *the most reliable packet TNC in the world* -- many work 24 hours a day for years without a single failure!

Fully TAPR TNC-2 compatible, VHF *and* HF operation, *free* AC power supply, new *enchanced* mailbox expandable to 512K with auto/reverse mail forwarding, WeFAX mode lets you print weather maps, optional plug-in 2400/9600 baud modems, KISS interface, MFJ Host mode.

MFJ TNC/Mic Switch

MFJ-1272B **$34.95**

Switch between your TNC or microphone by pushing a button!

Just plug pre-wired cables into your rig's mic connector and TNC.

Plug-in jumpers let you use nearly any rig with 8 pin mic connector.

MFJ-1272B, $34.95 /MFJ/TAPR TNC2 clones; **MFJ-1272BX**/PK-232; **MFJ-1272BYV**/KAM VHF/KPC3; **MFJ-1272BYH**/KAM HF Port; **MFJ-1272BZ**/PK-88, $39.95 each. *For 8 pin RJ45 modular phone jack replace B with M in model number above.*

Regenerative RCVR Kit

MFJ-8100K **$59.95** *kit*

MFJ-8100W **$79.95** *wired*

Build this *regenerative* shortwave receiver *kit* and listen to shortwave signals from all over the world with just a 10 foot wire antenna.

Has RF stage, vernier reduction drive, smooth regeneration, five bands.

MFJ-1278B Multi-Mode Data Controller

MFJ-1278B **$299.95**

Use this MFJ-1278B, your transceiver and computer to transmit and receive digital communications! You'll discover a whole new world of ham radio and communicate in ways you never knew existed on our ham bands.

The *world class* MFJ-1278B Multi-Mode and MultiCom™ software is packed with features *no other* multi-mode gives you.

You get *10 digital modes* . . . Packet, AMTOR, PACTOR (at no extra cost), RTTY, ASCII, Navtex, Color SSTV, 16 Gray Level FAX, CW and Memory Keyer plus an *enchanced* 32K Mailbox.

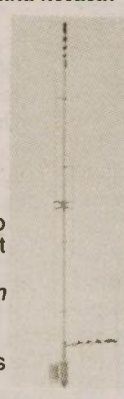
You'll have fun joining worldwide *packet* networks and exchanging *color SSTV* pictures with your buddies around the world. You'll marvel at *full color FAX* news photos as they come to life on your screen. You'll see weather changes on highy detailed *weather maps* in all 16 gray levels. You'll eavesdrop on late breaking news as it happens on *RTTY*. You'll enjoy error free HF QSOs on *PACTOR* and *AMTOR* and receiving packet mail in an *enchanced 32K mailbox*. Want to copy some *CW*? Just watch your screen.

MFJ-1289, $59.95, MultiCom™ software and cables.

MFJ halfwave vertical Antenna

6 bands: 40, 20, 15, 10, 6, 2 Meters . . . No radials or ground needed!

MFJ-1796 **$199.95**



Operate 6 bands -- 40, 20, 15, 10, 6 and 2 Meters --with this MFJ-1796 *ground independent* halfwave vertical antenna! No radials or ground ever needed!

It's only 12 feet high and has a *tiny* 24 inch footprint! You can mount it anywhere from ground level to the top of a tower -- on apartments, condos, small lots, even on motorhomes. Perfect for vacations, field day, DX- pedition, camping.

Frequency selection is fully automatic -- all you do is transmit. Its *low angle of radiation* really reachs out and brings in DX. Omni-directional. 1500 watts PEP.

Efficient *end loading*, no lossy traps. *Entire length* is always radiating. *Full size* halfwave on 2 and 6 Meters. High power *air-wound* choke balun eliminates feedline radiation. Adjusting one band has minimum effect on other bands. Add $20 s/h.

Easy to assemble -- you'll have it on the air in an afternoon.

MFJ's world famous 3 KW Versa Tuner V

MFJ-989C **$349.95**

Here's why the MFJ-989C is the finest 3 KW antenna tuner money can buy . . .

Two *massive* 250 pf transmitting variable capacitors can handle *amps* of RF current and *6000* RF volts. Logging scales.

Precision ball bearing roller inductor, three digit turns counter and spinner knob give you exact inductance control for minimum SWR.

Lighted *peak/*average Cross-Needle SWR/Wattmeter has 200/2000 watt ranges. Super heavy duty *current* balun has two giant 2½ inch powder iron toroid cores wound with *Teflon®* wire.

Six position *ceramic* antenna switch has extra large contacts. Flip stand, dummy load, one year *unconditional* guarantee, aluminum cabinet, tough *baked-on* paint, locking compound on nuts/bolts, handles 3 KW PEP, 10⅛x4½x15 in. Meter lamp needs 12 volts. Add $13 s/h.

MFJ *No Matter What™* Guarantee

MFJ's famous one year *No Matter What™ unconditional* guarantee means we will repair or replace (at our option) your MFJ product sold in this ad *no matter what* for a full year.

Super Hi-Q Loop Antenna

MFJ-1786 **$299.95**

Tiny 36 inch diameter high efficiency loop antenna covers 10-30 MHz *continuously* with low SWR. Handles 150 watts.

Ideal for home installations where space is limited-- apartments, condos, small lots. Take on trips.

All welded construction.

Remote control has *Automatic Band Selection™*, Cross-Needle SWR/ Wattmeter. No control cable needed. Use batteries or 110 VAC. Add$20 s/h.

No ground or tuner needed.

MFJ-1782, $269.95, like MFJ-1786 but remote control has only slow/fast tune buttons.

Dual Band Mobile Ant.

Mobile Antenna for 144/440 MHz

MFJ-1724B **$14.95**

MFJ *dual band* magnet mount mobile antenna for 144/440 MHz has 19 inch stainless steel radiator, low SWR. For mobile rigs with SO-239 UHF connector *and* handie-talkies with *included* BNC adapter.

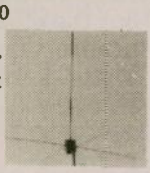
5/8 Wave Mobile Ant.

MFJ-1728/B **$24.95**

Maximum Gain™ 5/8 Wave 2 Meter *magnet mount* mobile antenna has stainless steel radiator, 12 ft coax, low SWR. UHF mobile (MFJ-1728) or BNC handie-talkie (MFJ-1728B) connector.

5/8 Wave Ground Plane

MFJ-1750 **$19.95**



$19.95 gets you a 2 Meter 5/8 wave ground plane *home station* antenna! You get the highest gain of any single element antenna, shunt fed matching, ceramic insulators.

MFJ-1752, $19.95, for 220 MHz.

Free MFJ Catalog

Write or call . . . 800-647-1800

Nearest Dealer/Orders: 800-647-1800
Technical Help: 800-647-TECH (8324)

• 1 year *unconditional* guarantee • 30 day money back guarantee (less s/h) on orders from MFJ • Free catalog

MFJ ENTERPRISES, INC.
Box 494, Miss. State, MS 39762
(601) 323-5869; 8-4:30 CST, Mon-Fri.
FAX: (601)323-6551; Add $6 s/h

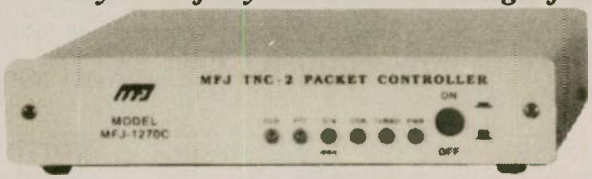
MFJ . . . making quality affordable

MFJ TNCs for VHF/HF Packet

MFJ-1270C super TAPR TNC clone has a world wide reputation as the most reliable packet TNC in the world! Thousands used as digipeaters, nodes, BBS and in all kinds of commerical applications working 24 hours a day -- many work for years without a single failure . . .

NEW *Super* TNC-2

- *ROM expands to 512K*
- *External accessible reset*
- *Built-in monitor amplifier*
- *Front panel ON/OFF switch*
- *Enhanced DCD circuit for HF*
- *Supports 19,200 baud terminals*
- *Memory Expands to 64K, 128K or 512K*



MFJ-1270C **$119.95**

The MFJ-1270C *super* TAPR TNC clone has a world wide reputation as *the most reliable TNC in the world!*

Thousands are dedicated as digipeaters, nodes, BBS and used in all kinds of commercial applications working 24 hours a day -- many work for years without a single failure.

The Most for Your Money

The most reliable TNC in the world gives you the most for your money. See for yourself . . .

Fully TAPR TNC-2 Compatible

You get full TAPR TNC-2 compatibility -- *all* software and hardware designed for the TAPR TNC-2 standard works without modification. You get NETROM, theNET and Rose Switch compatibility that turns your MFJ-1270C into a Layer Three and Four networking node.

VHF *and* HF operation.

You get high performance VHF *and* HF modems as standard equipment -- for double fun.

You get a true DCD circuit that dramatically reduces sensitivity to noise and dramatically increases completed QSOs.

FREE AC Power Supply

You get a *free* 110 VAC power suppy at no extra cost. With other brands, the AC power supply could cost you an extra $20.95.

New *enhanced* Personal Mailbox

The *enhanced* Easy Mail™ personal mailbox lets you use a dedicated call-sign for your mailbox. Your mailbox can stay on while you operate packet. It will also auto forward or reverse forward mail to and from other BBSs. A *check mail* LED blinks when you have mail. More features: remote sysop access, sysop paging, mailbox C-text, chat mode and many other features not available in other TNCs. The mailbox memory is expandable to 32K, 128K and 512K.

WeFAX gives you Weather Maps

You get a WeFAX mode that lets you print full fledged weather maps from your HF radio to screen or printer or save to disk using an MFJ Starter Pack.

Plug-in Modem - - 2400 or 9600 Baud

You can add MFJ's optional *internal* 2400 baud or 9600 baud modem just by *plugging it in* and making a few simple connections.

KISS interface and MFJ Host Mode

You get a KISS interface that lets you run TCP/IP and MYSYS and MFJ's Host Mode that makes it easy to write efficient application programs.

MFJ *Anti-Collision*™ Technology

You get MFJ's *Anti-Collision*™ technology that prevents packet collisions and improves performance on busy channels.

Plus more . . .

You also get 32K RAM, IC sockets for easy service, 256K ROM, speaker jack, lithium battery backup, RS-232 *and* TTL serial ports, radio cable (you have to add a connector for *your* radio), Fast-Start™ Manual plus much more. Use 12 VDC or 110 VAC. 9½x1½x7½ in.

One Year *Unconditional* Guarantee

You get MFJ's famous *No Matter What*™ one year *unconditional* guarantee.

Enjoy Packet for a long, long time

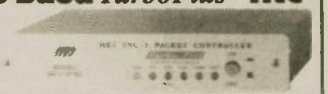
If you want a TNC that'll work 24 hours a day without failure -- *one that has more features than any other* -- get the ultra reliable MFJ-1270C today and enjoy packet for a long, long time.

2400 Baud *Turbo*™ TNC

MFJ-1270CT, $209.95. Has all the features of the MFJ-1270C plus built-in fast 2400 baud modem. Operate 300, 1200 and 2400 baud packet with the MFJ-1270CT. Radio modification is *not* necessary when operating 2400 baud packet.

MFJ 9600 Baud *TurboPlus*™ TNC

MFJ-1270CQ **$229.95**



Has all the features of the MFJ-1270C, *the most reliable TNC in the world*, plus built-in 9600 baud G3RUH compatible modem. Operate 300, 1200 and 9600 baud.

TNC ACCESSORIES

MFJ Starter Packs

An MFJ Starter Pack, $24.95, gets you on the air instantly. You get interface cable, software on disk and instructions -- just plug it all in and start enjoying packet. Order **MFJ-1284** for IBM or compatibles, **MFJ-1282** for Commodore 64/128, **MFJ-1287** for Macintosh or **MFJ-1290** for Amiga. For VIC-20 or C64/128 with tape drive use **MFJ-1283**, $24.95.

2400 and 9600 Baud Modems

MFJ-2400, $89.95, operates 300, 1200 and 2400 baud packet and works with any radio. **MFJ-9600**, $109.95, G3RUH compatible 9600 baud modem. Not all radios compatible with 9600 baud. Both plug into MFJ TNCs for easy installation.

Mailbox Memory

For MFJ-1270C/1276. Plugs into RAM socket for extra *mailbox* memory. **MFJ-45A** (32K), $14.95, **MFJ-45B**(128K), $34.95, **MFJ-45C** (512K), $219.95.

Real Time Clock

MFJ-43, $29.95, ends re-setting TNC clock everytime you turn it on. Maintains correct time even when TNC is off. Plugs into RAM socket. Works with MFJ TNCs and TAPR TNC clones.

FM Deviation Meter

MFJ-52, $29.95, plug this board into your TNC configured as TheNet X-1J Node and users can check their transceiver packet FM deviation. Requires X-1J or later nodeware. See *CQ Magazine*, Nov. 1993.

Firmware Upgrade 1.2.9

For older MFJ TNCs. **MFJ-40C**, $19.95, gives you enhanced mailbox and supports mailbox up to 512K.

Mailbox Memory Expansion Board

For older MFJ TNCs. **MFJ-47A**, $49.95, 32K RAM; **MFJ-47B**, $69.95, 128K RAM; **MFJ-47C**, $239.95, 512K RAM. Complete with firmware.

MFJ's new TNC/Mic Switch

Switch between your TNC or Mic by pushing a button!

MFJ-1272B/M **$34.95**

Switch between your microphone and TNC by pushing a button!

You won't have to unplug your microphone and plug in your TNC *everytime* you want to work packet or other digital modes.

Just plug these pre-wired cables into your rig's microphone connector and into your TNC and you're ready to go -- no more hard-to-find connectors and wiring up cables.

Works with HF, VHF and UHF radios with 8 pin mic connectors -- including Kenwood, ICOM, Yaesu, Alinco and others. *For radios with 8-pin RJ-45 modular telephone jack, select the new "M" models.*

Plug-in jumpers let you quickly set-up for virtually any radio. Factory set for Kenwood and Alinco. Includes easy-to-follow instructions. Has audio-in and speaker jacks. 3¼x1¼x4 inches.

MFJ-1272B/1272M, $34.95, for MFJ TNC/multimodes,TAPR TNC-2 clones.
MFJ-1272BX/1272MX, $39.95, for PK-232.
MFJ-1272BYV/1272MYV, $39.95, for KAM VHF/KPC3.
MFJ-1272BYH/1272MYH, $39.95, for KAM HF Port.

Pre-wired Radio-to-TNC cables . . . $14.95

	All MFJ	PK-232™	PK-88™	KAM™/KPC3
[1]Icom/Yaesu HTs	MFJ-5024	MFJ-5024X	MFJ-5024Z	MFJ-5024YV
[2]Kenwood HTs	MFJ-5026	MFJ-5026X	MFJ-5026Z	MFJ-5026YV
Yaesu 8 pin radios	MFJ-5080	MFJ-5080X	MFJ-5080Z	MFJ-5080YV MFJ-5080YH
[3]Icom 8 pin radios	MFJ-5084	MFJ-5084X	MFJ-5084Z	MFJ-5084YV MFJ-5084YH
Kenwood/Alinco 8 pin radios	MFJ-5086	MFJ-5086X	MFJ-5086Z	MFJ-5086YV MFJ-5086YH

1 does not include IC-W2A 2 does not include 2500 3 does not include 25A & 255A
4 YV models connect VHF port KAM KPC3. YH models connect HF port of KAM

Cables with connector *pre-wired* for *your* radio

MFJ-5082, $9.95, open end cable with 8-pin mic connector
MFJ-5224, $9.95, open end cable for Icom/Yaesu handhelds
MFJ-5226, $9.95, open end cable for Kenwood handhelds
MFJ-5268, $7.95, open end cable with 8-pin modular phone plug for Yaesu FT-2400H, Kenwood TM641A, TM714A, TM732A

FREE MFJ Catalog
Write or call . . . 800-647-1800

PACKET *plus* PACTOR TNC

You get all the features of the MFJ-1270C HF/VHF TNC plus . . . PACTOR . . . precision HF tuning indicator. . . extra 32K mailbox memory . . .

MFJ-1276 **$159.95**

PACTOR combines the best of Packet and AMTOR for HF. You get excellent weak signal operation, error correction, faster baud rate, data compression and full 8-bit word transmissions.

A 20 LED bargraph makes HF tuning easy. Just tune your radio to center a single LED and you're precisely tuned in to within 10 Hz -- and it shows you which way to tune!

You also get an extra 32K of memory for your enhanced *Easy Mail*™ packet mailbox.

MFJ-1276T, $249.95, same as MFJ-1276 but includes fast 2400 baud modem. Lets you operate 300, 1200, and 2400 baud packet.

Nearest Dealer/Orders: 800-647-1800
Technical Help: 800-647-TECH(8324)
• 1 year *unconditional* guarantee • 30 day money back guarantee (less s/h) on orders from MFJ • FREE catalog

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MFJ . . . making quality affordable

SPECIAL EVENTS

Anza Days

The Anza Valley Radio Club will operate WB6UBG on 1 July, 1700 to 2300Z, to commemorate Anza Days and the Juan Bautista de Anza National Historical Trail. Operation will be on the General phone portions of 15 and 20 Meters and the Novice portion of 10 Meters. Send QSL and SASE to Anza Valley Radio Club, Box 390501, Anza, CA 92539.

Oswego County fair

The Oswego County Emergency Communicators will operate K2QQY 2 July, from 1600Z, at the Oswego County Fair in Sandy Creek, NY. Operation will be in the lower portion of all General HF bands. For certificate, send QSL and SASE to WD2AFI.

Sawdust Days festival

The Winnebago ARC will operate AA9GO, 30 June through 4 July, 1600Z to 0300Z to celebrate the 29th annual Sawdust days festival. Operation will be on the 80 to 10 Meter bands. Send QSL and SASE number 10 envelope to: Michael Q. O'Connor, 519 Franklin St., Oshkosh, WI 54901.

"Days of '47"

The Utah Amateur Radio Club will operate W7SP, 24 July, 1400Z to 0200Z to commemorate the "Days of 47" parade and festivities. This is a statewide holiday that celebrates the day the Mormon pioneers ended their journey across the west to settle the Salt Lake Valley in 1847. Operation will take place on CW and SSB on 7.047, 7.147 and 7.247 kHz as well as 14.047, 14.247 and 146.54 simplex. For a commemorative QSL card, please send your QSL and an SASE to: Ray Allen, N7TEI, 1774 Lincoln Lane #4, Salt Lake City, UT 84124.

Folsom Powerhouse Centennial

The Sacramento ARC will operate W6AK, 13-15 July, 8 a.m. to 5 p.m. Pacific Daylight time honoring the Folsom Powerhouse Centennial. Operation will be SSB on 10, 15, 20, 40, and 80 Meters. The 10, 40 and 80 bands will probably be used the most. A special centennial QSL card will be sent to stations worked who send an SASE to the Sacramento ARC, P.O. Box 161903, Sacramento, CA 95816.

First transcontinental highway

The University ARC will operate AA7BP, 15 July 0000 UTC to 16 July 2400 UTC, to commemorate the highest point on the first transcontinental highway. Operation will be in the General portion of the 80 through 15 Meter phone bands and the Novice portion of the 10 Meter phone band. For a QSL, send your QSL card with contact number and SASE to University ARC, P.O. Box 3625, Laramie, WY 82071.

Tesla Society

The International Tesla Society will operate KC2Q, 20-23 July, 1600-2400Z daily, from Colorado Springs. Frequencies will be 7.297, 14.297, 21.937 and 28.397. QSL not needed. We QSL directly to you. This special event is run a little different than most, in that we automatically send a QSL card to each and every contact. We don't wait to receive one first. Should you desire an 8 1/2 x 11 certificate, send one dollar ($) or enough postage for a large 9 x 12 envelope to: International Tesla Society, Inc., P.O. Box 5636, Colorado Springs, CO 80931.

Dr. Mahlon Loomis' birthday

The Fulton County Mahlon Loomis Committee will operate W2ZZJ, 22-23 July, 1300-2000Z in the General class phone portion of 40, 20, and 15 Meters; Novice 10 Meter phone band; and area 2 Meter FM repeaters. This is to celebrate the 169th anniversary of the birth of Dr. Mahlon Loomis, the American wireless telegraphy pioneer who was born in Oppenheim, New York. For certificate and literature, send QSL, contact #, and #10 SASE to W2ZZY, 5738 STHWY 29A, Stratford, NY 13470.

Port Huron Yacht Race

The Eastern Michigan ARC will operate K8EPV on 22-23 July from 1400Z-0200Z, to commemorate the 71st running of the Port Huron to Mackinac Island Yacht Race. Frequencies will be CW: 3.710, 7.110 and 21.110 and SSB: 3.910, 7.272, 14.272, 21.312 and 28.393. For a unique certificate send your QSL and 9 x 12 SASE to K8EPV, P.O. Box 611230, Port Huron, MI 48061-1230.

North Irwin Borough

NA3H will operate the week of 29 July through 6 August to celebrate the 100th anniversary of the incorporation of the Borough of North Irwin. Operation will be in the General and Novice phone and CW portions of 80 through 10 Meters. Also 146.52(S). For certificate, send 9 x 12 SASE to Aggie Reynolds, NA3H, 46 Ridge Ave., North Irwin, PA 15642-3319.

LaPorte County Fair

The members of the LaPort ARC will operate K9JSI, 17-22 July from 1500 UTC to 0400 UTC to celebrate the sesquencentennial of the LaPorte County Fair. Operation will be on HF in the General portion of the 75, 40, 20, 15 and 10 Meter phone bands. For QSL send your QSL and an SASE to: Laporte Radio Club, P.O. Box 30, LaPorte, IN 46350.

U.S.S. *South Dakota*

The Sioux Empire ARC will operate WØZWY 8 July, 1400Z to 2200Z to commemorate the U.S.S. *South Dakota* BB57 (WWII Battleship X) 50-year national reunion. Operation will be on CW and phone on the 80 through 10 Meter bands. For a QSL certificate, send QSL and SASE to S.E.A.R.C., P.O. Box 91, Sioux Falls, SD 57101.

Pioneer Airport

Members of the Fox Cities ARC will operate W9ZL from the Experimental Aircraft Association Fly-in and Convention in Oshkosh, Wisconsin 27-30 July. Operation will be from the Pioneer Airport adjacent to the EAA Aviation Museum. Operations will be on the General phone portions of the HF bands, as well as RTTY and CW as conditions and operators permit. The club also will be giving "on grounds" convention information (no QSLs please) on 146.52(S). Proper QSL and SASE only to: Wayne Pennings, WD9FLJ, 913 N. Mason, Appleton, WI 54914 for special 8 x 10 picture certificate.

"The Big One"

The Racine Megacycle Club will operate W9UDU, 15 and 22 July to celebrate the 21st Anniversary of the largest Lake Michigan fishing contest, "The Big One," Salmon-A-Rama. Operation will be on the lower 25 kHz of the General 20 and 40 Meter phone/CW bands and 28.400 MHz. Contact may also be made on 147.27(+) (Lakeshore repeater). Packet operators may connect with W9UDU@K9RRS.EN62GK.WI.USA.NOAM

Subject: Salmon-A-Rama; text: Fishing Lake Michigan is great because....

For certificate, send your QSL and an SASE to the Racine Megacycle Club W9UDU, Box 3, Racine, WI 53401-0003.

Send in your special event notice today!

SILENT KEYS

John B. Knight, W6YY

Capt. John B. Knight USNR (Ret) died March 29, 1995, of heart failure.

John was born in Augusta, GA, on Oct. 18, 1906. His family later moved to South Carolina, where he was issued a license for amateur station 4DX in 1920. John began amateur operations with a Ford spark coil, then a UV-201 and, later, a UV-203 50W transmitter given to him as a high school graduation present.

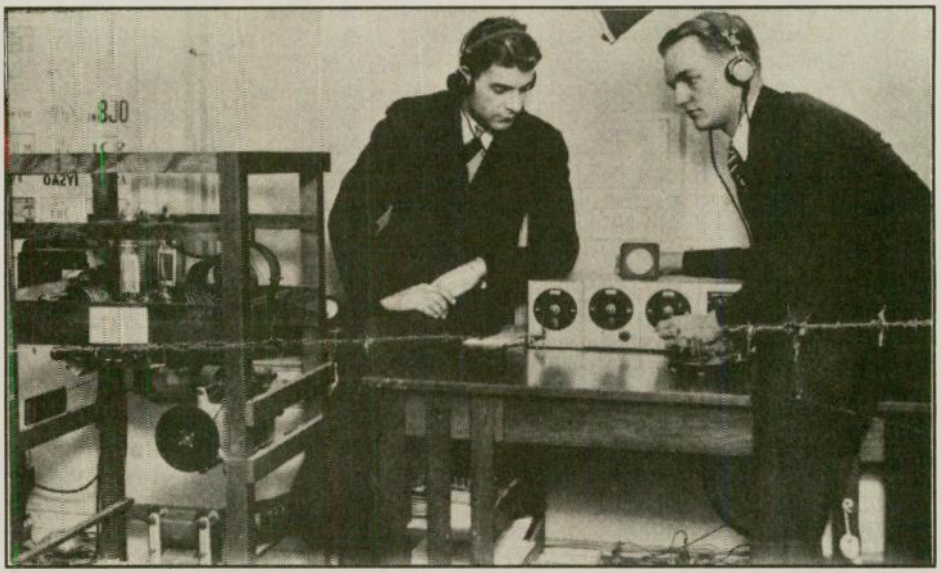
Using a 60-jar lead-aluminum chemical rectifier in a borax solution, a combination called a "slop jar" at the time, he worked all states by 1925 on the old 150-Meter band. John was the first amateur in South Carolina to work Europe.

His antenna was a 6" diameter twin cage strung between two 90-foot poles made from 10-foot sections of 3" gutter pipe. Plenty of guy wires held the poles erect. By 1925, one of the poles was used as a vertical antenna on 40 Meters.

He attended school at the Citadel in Charleston, SC, and at the U.S. Naval Academy in Annapolis, MD. John was in the academy's class of 1929, but he resigned in 1927 and went to work for AT&T at the Western Electric factory in Kearny, NJ, as a transfer of manufacture engineer. It wasn't long before John was reassigned to another AT&T affiliate, Electrical Research Products Inc. New York, which made sound equipment for theaters. For two years, he installed equipment in theaters around New York before transferring back to the Kearney works.

One of John's frequent amateur contacts, Fred M. Link, 3BVA, from York, PA, also went to work for AT&T. His assignment was with New York Telephone as a transmission engineer. Through their radio communication, John and Fred knew that they both were moving to New York, and they arranged to share rooms at the Prospect Park YMCA in Brooklyn. Together they built a new station, jointly licensed to them as 2ALU, with the main objective of competing in the American Radio Relay League's second annual DX competition in 1927.

The contest lasted two weeks, but 2ALU was forced to cease operation after the first few days because of complaints about broadcast reception interference. The discovery of the station as the source of the interference made front-page news in New York. Despite the abbreviated operation, John and Fred made so many contacts in the early part of the contest that their station took second place. Were it not for lack of proof of a contact with the *Nielsen Alonso*, an icebound Norwegian whaler near Antarctica, the station would have placed first. Proof in the form of a postcard from the vessel's radio operator could not be mailed until 18 months later after the ship broke free of the ice and reached port.



John B. Knight (right) and Fred M. Link in 1929 at their jointly owned station, W2ALU.

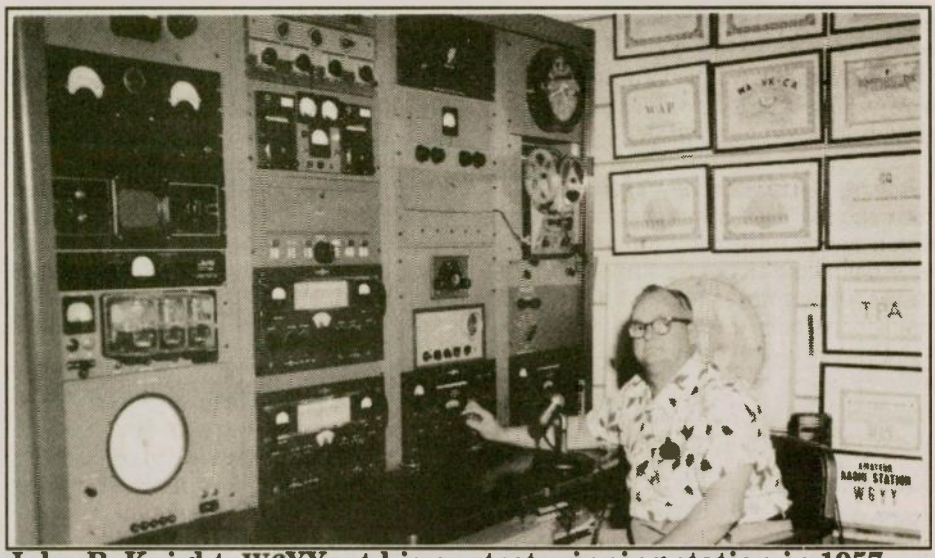
John described the YMCA transmitter as using a UV-204 "250-watter" with a mercury vapor rectifier. He recalled a special feature of the transmitter: The primary power input was diverted from the transmitter to an electric heater when the Morse code key was open, keeping the power drain relatively constant whether the key was open or closed. This kept the lights in the YMCA from flickering, which might draw unwanted attention from other residents or the building management.

Fred recalled that the YMCA transmitter used power tapped from AC lines in the elevator shaft and developed in excess of 1kW of power output.

The newspaper publicity about the interference led to the next step in John's career, because it attracted the attention of Allen B. DuMont, the chief engineer and manager of De Forest Radio Company, himself a radio amateur. DuMont hired both John and Fred, initially to help with the design and construction of TV transmitters. John was in charge of the transmitter equipment division, where he built radio broadcast and communications transmitters for the U.S. Department of Commerce, the Hearst newspaper radio division, the Michigan state police, and the cities of New York, Philadelphia and Los Angeles. He built and operated the first TV sound transmitter, 2XCD, at the De Forest factory in Passaic, NJ.

Cast out by the YMCA following the contest episode, the two operators reconstructed their amateur transmitter in an apartment at 583 Riverside Drive that faced the Hudson River.

A third version of the station retained the receiver at the apartment, and the transmitter was rebuilt at De Forest Radio's Passaic Park, NJ, factory. The transmitter was operated by remote control via a leased telephone line from the apartment. Although it was under remote control, the high voltage was left on during operation. The remote control served only to key the signal, but it was a first for Amateur Radio. That of the transmitter used a half-wave, three-phase rectifier that gave it a distinctive 180 Hz



John B. Knight, W6YY, at his contest-winning station in 1957.

modulation. It used two 1kW tubes as a push-pull amplifier.

When the federal government added the "W" prefix to amateur calls and combined station and operator licenses, Fred retained the W2ALU call sign. John was assigned W2JJ. John left De Forest Radio to join the National Broadcasting Company (NBC) in 1933 at the Radio City studio and switchbank. Except for seven years' active Navy duty during and after World War II, John remained with NBC until retiring in 1971.

In 1936, he worked as a senior TV engineer for transmitters. "I worked at Radio City for a while," John said during a 1990 interview, "and then at the Empire State Building for the first field test of RCA TV in 1936." The Empire State Building was the TV transmitter location. "RCA built 100 TV receivers and distributed them among its executives in New York. The company built one TV studio in Radio City to see how it would go. Just before World War II began, the FCC decided that TV could begin commercial operation."

Shortly before the war began, John, then a Lieutenant in the U.S. Naval Reserve, was called to active duty. He was assigned as a senior assistant at the Underwater Sound Desk of the Electronics Division at the Bureau of Ships in Washington, DC. The Bureau of Ships was looking for a technical officer to work with anti-submarine underwater sound. The U.S. Navy Underwater Sound Laboratory was established at New London, CT, and John served as the officer in charge, rising to the rank of Commander. The laboratory was unique in that it was located at an old Army fort, Fort Trumbull, which was operated as a Coast Guard base. In 1943, he also served as a technical consultant at the Harvard Sound Laboratory and at Woods Hole Oceanographic Institution.

Although still with the Navy, he returned on transfer to NBC to work as the assistant station engineer at the Empire State Building TV transmitter in 1946. The next year, he moved to Washington, DC, to build and open WNBW, the first commercial TV station there. (His amateur call sign during this period was W3JJ.) "The network had coaxial cable connecting New York, Philadelphia and Washington," John said. "I worked there for one-and-a-half years."

Later in 1947, he was attached to the Naval Reserve Research Unit No. 1 at Chavez Ravine, Los Angeles. "I came back to California where I was promised a job as chief engineer of the Los Angeles station if I would leave the Navy," John said. "I returned to NBC and stayed there until mandatory retirement in '71."

In 1948, John was named engineer-in-charge at KNBC, Los Angeles. His Amateur Radio station call sign was changed to W6YY. From 1951 to 1971, he was manager of technical operations at KNBC. He was promoted to Captain in the U.S. Naval Reserve in 1951.

"As chief engineer, I spent half the time at the transmitter on Mt. Wilson and half the time at the studio in Burbank," John said. He made his home halfway between them on the road to Mt. Wilson.

"NBC built the biggest tower on the mountain. Demand for antenna space from mobile radio users was so great, we leased space on the tower and in the metal transmitter building. Each lessee had a cubicle for equipment and a panel on the tower to hang antennas. The station earned a good income from those leases," John said.

"I asked the general manager, 'How about giving me a little space for my ham station, and I'll operate by remote control from my house?' He agreed. I put my antennas on two wooden poles already in place. For 10 years I operated from home by remote control." John's amateur operation was about 75% AM phone, 25% Morse code.

"So far as I know, it was the only remotely controlled amateur receiver and transmitter. Several hams had remote-controlled transmitters, but few of them ever had remote-controlled receivers," he said.

"At first, I used UHF control links. But as more and more transmitters were placed on the mountain, the interference became too great. By the time about 2,000 transmitters were in use on Mt. Wilson, finally I leased a telephone line for use in both directions," John explained.

"I used composite, home-assembled AM equipment. Some of it included exciters and receivers made by Collins and Racal. I was one of the first to get a Racal receiver from Britain. The rest was mostly Collins or surplus WWII equipment and parts you somehow got hold of, tubes and power supplies—like broadcast transmitters used to be.

"I used maximum power, 1kW. The transmitter used an Eimac 4-1000 tube, which gave me enough leeway so I didn't need to retune when I changed frequencies. The transmitter and receiver frequencies were locked together for transceive, which was a convenient arrangement for the mountaintop operation," John said.

"The VFO was driven by a 1 rpm motor and a sprocket-and-chain arrangement. At the house I had a dummy variable VFO with a frequency scale on it. As the motor turned clockwise or counterclockwise, the scale showed me the frequency.

"To verify the frequency independently, I used a receiver at the house to show me the frequency I was transmitting on. As I moved frequency 2 or 3 kHz I could read it on the receiver," he said.

"Two rotary antennas covered the 15

Meter and 20 Meter bands. The remote directional indication was inferred by measuring the time the rotor was in operation. The rotor had a limit switch that stopped it when the antennas pointed north. Activating the rotor long enough to ensure it would hit the limit switch calibrated the antennas to north. Then, if I wanted to point the antennas to a specific direction, I would rotate them for the number of seconds required. A full rotation took 60 seconds," John said.

A year before he retired, John spent three weeks' vacation in Eastern Europe. "I visited central radio clubs in each satellite country," he said. "I lined up many people I talked to and knew me and knew who I was. It was quite an education." When he retired, John began traveling the world, visiting amateurs in foreign countries with whom he had spoken, but never met.

"When I retired in 1971, I got permission to keep equipment on the mountain until NBC needed the space. Eventually someone who didn't know me succeeded to the top management post. I got the word third-hand in 1983 that the manager wanted to use the ham equipment's space for more mobile radio equipment. I have been off the air since," John said.

John's Amateur Radio operation placed him on the ARRL's DX Century Club Honor Roll for many years. He took first place in the single-operator multiband CQ DX phone contests in 1955 and 1957 and won the ARRL DX contest in 1957.

He was a member of the Radio Club of America since 1978, becoming a Fellow in 1980. He received the club's Jack Poppele Broadcast Award in 1994. In addition to belonging to ARRL, he was a member of the Radio Society of Great Britain, the Society of Television Engineers (Los Angeles), the Southern California DX Club and the Radio Amateur Society of Thailand.

After leaving NBC, John was employed as a radio engineering consultant by various Thailand manufacturers in connection with contracts with the Signal Corps and with the Navy of the Kingdom of Thailand. He engaged in similar consultation with the broadcasting division of Radio Sofia (Bulgaria), including engineering and procurement.

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John is survived by Peggy, his wife of 61 years, and a sister, Katherine Coe, of Birmingham, AL. A daughter, Jean Ellen, preceded him in death.—*submitted by Don Bishop, NØEA*

Dana Atchley, W1CF

Dana Atchley, W1CF, founder of Microwave Associates died 22 April 1995, after a long illness. He was 77 years old and lived in Lincoln, Massachusetts.

In the 1970s Atchley created the "four square" vertical phased array, for which he was awarded a patent. He later described the antenna in *QST*. In recent years that antenna has seen a resurgence in interest among low-band HF DXers and has become virtually their antenna of choice on 80 Meters.

Dana, then W1HKK, held postwar DXCC number 3.

Atchley was an active promoter of amateur use of the microwave bands. He was instrumental in the creation of The New Frontier column in *QST*. He also arranged for a grant to the Smithsonian Institution from MA/COM in 1983 to help pay for renovations to NN3SI, the amateur exhibit station there.

A memorial service was held on May 31st, at the Acton Congregational Church in Acton, Massachusetts. WR

NEWSFRONT

CC&Rs

The ARRL says that it is looking at the feasibility of various approaches to reducing the effect of restrictive covenants restricting Amateur Radio antenna systems. It now appears that neither judicial or legislative remedies look promising at this time.

The League says that its study into CC&Rs will continue in accordance with the directives of the 1995 Annual Board of Directors Meeting. In the meantime, the ARRL says that it is important to educate all radio amateurs on covenant issues so that they will not unknowingly enter into agreements under which their operating may be restricted.

The League's General Counsel and staff have been instructed to develop a guidebook dealing with restrictive covenant issues as they relate to Amateur Radio.

WRTC delay

The second World Radiosport Team Championship has been delayed. WRTC-95, planned for July 1995, has been rescheduled for July 1996. Organizers of the Washington, DC event said that WRTC-96 will be held the second weekend of July 1996, in conjunction with the IARU HF World Championship. The WRTC committee said that the major reason for the postponement was to give financial sponsors more time to publicize their participation well in advance of the event. The committee also has decided to change from 50 two-person teams to 30. The time frame for qualifying contest scores for applicants will be expanded from five to six years, to include results published from 1990 to 1995.

Taxi SATs

Amateur Radio satellite operators in Spain have asked that nation's telecommunications regulatory agency to stop taxi companies in Madrid from using the satellite frequencies for their communications. Illegal taxi communications are reportedly making ham radio satellite communications unusable in Spain and in other parts of Europe when the satellite is visible. The taxi services are not actually using the hamsats to communicate. Rather they are illegally operating their dispatch services on frequencies reserved for Amateur Radio satellite operations. Several European Amateurs have offered ideas on how to deal with the problem, but government assistance has been very slow.

Special Olympics summer games

Brian Battles, WS1O, reports that the personnel manager for Amateur Radio volunteers at the 1995 Special Olympics World Summer Games, Lance Seelbach, N1TAN, now has an on-line address. You can send messages to Lance at N1TAN@MAGIC.COM. Lance lives in West Hartford, Connecticut, and his telephone number is 203-231-7244.

Brian Battles adds that ham radio volunteers for the games are still needed. Anyone who wants to volunteer to assist with communications should get in touch with Lance. He can direct you to the Project Manager for the area in which you want to help, and he's keeping a data base of ham volunteers.

A Ham Radio-Special Olympics Mailing list has been created to carry

(more on page 30)

OFF THE AIR

Is it jargon?

Last year (June 1994), an article here criticized some hams' speech patterns, describing them as jargon or "meaningless talk." Is it, though? It's true we use terms unfamiliar to people outside the hobby, but so do all groups. Only a photographer is likely to be able to explain depth of field, and "group" has a particular meaning for the target shooter. As for verbal shortcuts, once I could have told my boss, "We received a formal and official request to perform certain investigative activity for the Landeskriminalamt in connection with a crime under its jurisdiction," or, "We got an RFA from the GPs." Either would have been clear at the time, but the second conveyed all the necessary information and was a lot less cumbersome.

As for effective communications, is "Let's go to simplex on 146.52 megahertz" better than "QSY to five two," if the parties know what's being said? Does anyone really think the man on the street would understand either one? During a traffic net recently, the recipient had a very weak signal and the originator couldn't tell if the message had been copied completely; finally, he said, "If you got it all, say QSL several times." "Noise, noise, Q, noise, L" was enough to confirm receipt of the traffic in a way nothing else would have done under the circumstances. If Q signals were never heard except on CW (sorry, "communications using a variation of the digital code invented by Samuel Morse"), someone's battery would have probably died before they could have gotten the message through. Those who think the no-code license is the ruination of Amateur Radio should actually be supporting the use of Q signals on phone; when everyone finally picks up the key, at least they'll know what they mean.

Of course, there's nothing that requires us to talk like others, and there are times when plain speaking is best; the most obvious example is during an emergency when using a phone patch or if you might be talking to a new ham. "I need someone to make a landline to the CSP" is *not* the way to report a traffic accident. If you can't make the transition to plain language when necessary, then don't use "hamese"—ever. Furthermore, the standard ITU phonetics are important to know, even for use on repeaters. The fact is, however, that most of the time efficiency is not necessary on ham radio, and we can be as weird as we want without affecting anything except the number of our listeners.

But what about the impression we make on others? Well, though it may be a blow to our egos, *very* few non-hams ever hear us on the air, and most of those who do have no idea there's any difference between Amateur Radio and CB. If you happen to be with a non-ham and don't have anything better to do than listen to your rig, use the opportunity to talk about how Amateur Radio offers something for everyone, including a few who get a kick out of trying to sound like Kojak; "diversity" is all the rage these days. A teacher trying to encourage students to become involved can explain how members of human bands develop certain rituals, including arcane vocabulary and patterns of speech, to foster group solidarity—if a teenager can't understand that concept, there's no hope.

The best way, of course, to foster appropriate behavior on the ham bands is to set the example; establish yourself as a person to be respected and you'll be imitated. Time and again I have heard hams new to a repeater bring obnoxious habits with them only for the habits to disappear when they find themselves in a minority of one. Other times gentle hints will do the job: "It was good to make your acquaintance; jump in and join the conversation any time you like. And while I know it's not true everywhere, on this repeater you don't have to say 'break', to be recognized—just give your call sign. We try to reserve 'break' for emergency and priority traffic. 73!" Finally, if you get tired of listening, enable the "off" circuitry (or hook up the LiTZ decoder) and read a book.

JOHN O. STEWART, KFØPQ
Leadville, Colorado

Kurt's right on

My congratulations to Kurt Sterba on his fine article in the May issue. The answer to his closing question about how long it will be until hams finally scream, "I'm madder than hell and I'm not going to take it any more!" is, "When licenses are no longer given as a reward for memorization, and when some shred of technical understanding is required to obtain an amateur license."

After all, Kurt, most people believe the claims of household appliance vendors.

DAN ZEITLIN, K2YWE
Annapolis, Maryland

"Polyproblems"

I read the Aerials column in ***Worldradio*** regularly, and I have found Kurt Sterba's information to be accurate and helpful. Everyone should read it just to dispel any misrepresentations antenna manufacturers might accidentally publish, (hi). His comments about the cell phone antenna that had one db more of gain, so that no more calls would be missed, was right on the money, but he missed one point. Most cell phone users don't know how antenna gain is figured, and would probably care less. They are easy targets when someone comes along and sells them something, and that is the name of the game. Let the buyer beware!

The true reason I am writing is that, I want to pass along some information. Awhile back I found a design for a backpack J-pole for 2 Meters and 440 MHz. The antenna is made from TV 300 ohm twin lead. I followed the instructions and the antennas SWR fell into place, then the trouble began. I wanted to seal the solder joints against the weather, and decided to use polyolefin irradiated heat shrink material.

After buttoning up the antenna I checked the SWR and it was horrendous! I thought I had messed something up so I took the weatherproofing off, checked again, and the SWR was all right. Irradiated heat shrink (material) does not like RF, including mic shielding. It louses that up too.

Kurt may already know this, but many of your readers might not, and I thought I would help reduce frustration among antennas builders who might be considering using polyolefin irradiated heat shrink tubing. Use cold fusion tape. It works well, and when covered with vinyl tape on the outside, will remain weather tight for a long time.

JOHN SWAIN, KE2XX
Canaseraga, New York

CC&Rs

I read the article written by Steve Katz about CC&Rs in the May issue, and agree with all he said. CC&Rs apply even in individual buildings.

I live in one, a condo with a restriction against outside antennas, but because it is built on top of where my house and lot used to be (along with 9 others) I got the developer to agree to let me have a ham radio antenna on top of it, in spite of this restriction. He even bought it all for me: including a TA-33, a tiltover minimast, and other things to go with it, like conduits, etc. The support is built in as part of the roof. With my apartment right under (he gave each of us an apartment in exchange for the house we had on the ground).

In spite of Board of Directors' claims that this kind of thing on a roof lowers property values and spoils the looks of the building, in all the 14+ years it has been up there, only ONE person has ever taken enough notice of it to ask the resident manager about it, even though it is plainly visible from a sundeck on the top floor! And I daresay its presence has never entered into any negotiations over the price of an apartment, like "there is an ugly contraption on the roof and therefore I want you to knock off $5,000 from your asking price." Ha!

But since FCCs PRB-1 prohibits state and local governments from banning ham radio antennas and towers, they must be accommodated, I can't understand how developers who ban them can get building and/or development permits, how it is legal to approve a permit in such a case. To me it's the same kind of situation as when you hire a hit man to do a killing for you. I think "the law is an ass."

TED CHERNIN, KH6GI
Honolulu, Hawaii

Cycles vs. hertz

I read with amusement the article by Mr. Robert J. Smith, N2EPR, "Cycles/Second vs. Hertz, revisited, (*Worldradio*, March '95). Mr. Smith's long dissertation did more to justify using Hertz than eliminating it, but he doesn't know it.

First of all let's lay out the ground rules. The proper units for velocity (c), for wavelength (λ), is meters. The proper units for frequency (Hz), is 1 / second.

In the formula λ = c / Hz, we want the dimensional analysis to end up with the units on both sides of the equal sign being the same. Let us try it out and see.

Wavelength = velocity divided by frequency or
= c divided by Hertz or using dimensional analysis,
meters = meters / second divided by 1 / second which gives us-
meters = meters X second / second X 1
and
meters = meters, what is confusing about that?

ROBERT S. ISAACS, WA1SMI
Ayer, Massachusetts

Railhams

I appreciate your interest in finding out what readers are doing to enhance the spirit and public service of Amateur Radio.

One area that I am working on is to develop a "council" or united organization to exchange information for "railhams," or Amateur Radio enthusiasts who also enjoy rail photography.

Now there's very little on "railhams" due to its novelty. I understand that only a few areas have informal "railfan channels" consisting of repeaters and simplex channels that are shared by other persons.

I hope to see this field expand and hope to hear from you on this topic.

LES SUGAI, N2UJR
Bayside, New York

What's in a name?

I live in a town founded by a Pioneer named Eugene Skinner. His wife suggested changing the town's name from the original Skinner's Mudhold to its current Eugene. Eugene is adjacent to Springfield, named after a spring in a field. Actually, a spring in a field and a mudhole are just two forms of the same thing, but one sounds more respectable than the other.

So are names we call people. Pig is a derogatory term derived from an animal that wallows in the mud, but ham is respectable being the kind of sandwich one brings on a picnic. It should not bother us to be called hams. The police have been called worse.

"Amateur" defines our non-pecuniary interest which is part of the basis and purpose of our radio service. But private radio seems to contradict the basis and purpose for public service not to mention club stations.

Both terms, ham and amateur have had widespread use and using them both, increases our chances of being understood.

EARL GOSNELL, N7NZ
Eugene, Oregon

Ragchewing

Just filling in my computer logbook while listening to a few locals ragchew on 50.125 MHz while a station from Texas is desperately trying to break in. Thought maybe I'd ask you to print a friendly reminder to the ladies and gentlemen of the VHF bands out there (especially this time of year): "Thank you for not ragchewing on the calling frequencies." The low-power stations really appreciate this courtesy during band openings. The idea is to make a contact on the calling frequency and then to QSY.

CLINT MILLER
West Palm Beach, Florida

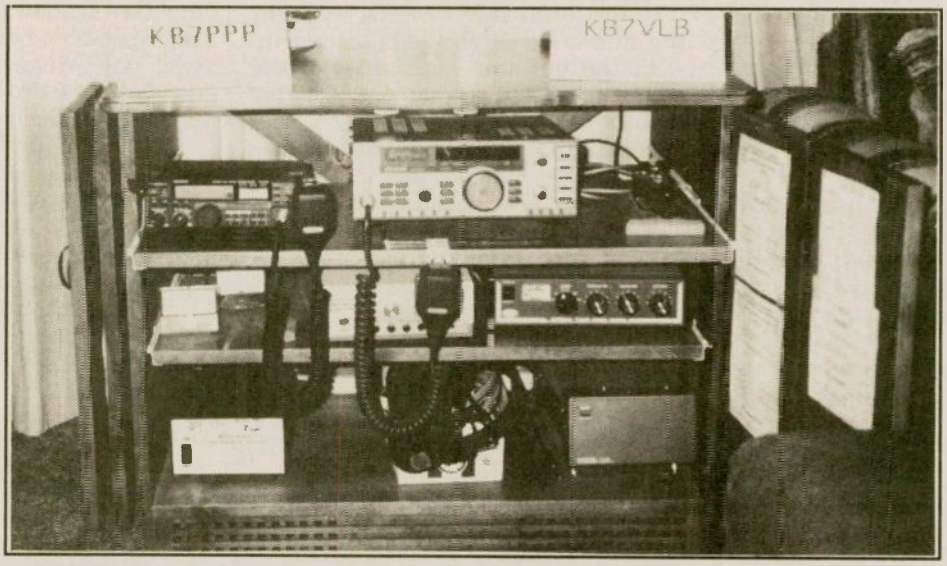
A thought

One-seventh of your life is spent on Monday. —WD1V, North CoastARC *Communicator*

STATION APPEARANCE

David S. Burch, KB7PPP

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.



Although I had been very keen on radio as a teenager before WWII, my interest was not revived until after I retired in 1989 and moved to a small, but cozy mobile home in a rural setting. I got my first license in 1992 and upgraded to Advanced in 1993. My wife Lizann, KB7VLB, passed her Technician exam at the same time.

The only convenient place for a support for antennas is at the living room end of our house and we wanted to put our station there to keep feedlines short. But we also wanted to be able to enclose the station when it was not in use, when the living room has its usual function.

Skilled woodworker Craig Taylor of Aloha, Oregon, created the cabinet shown. It is of alder, stained and hand rubbed, with handmade wrought iron hardware. The unit must sit over an outlet for the heat pump ducting, so Craig made the routed wood grating base which gives plenty of air flow. The back of the cabinet has an X-brace which gives good stability and ventilation. The doors are both split and fully hinged to fold completely to the sides.

The bottom shelf is fixed and holds a power strip and heavy items, power supplies and accessories. The upper two shelves are on slides to permit them to be pulled out in operating position. On the top shelf are a Kenwood TR-751 two meter all-mode transceiver, a Kenwood TS-140S HF transceiver, and a very old straight key. The second shelf holds meters to monitor the storage battery under the house, a Da-tong DSP unit, and a B&W tuner.

Antenna lines come through the wall just behind the couch to the right in the picture, and the feed points for three wire dipoles and an AR2 antenna for 2 Meters are about thirty feet above this position.

In another room that serves as our office and occasional guest bedroom we also have a 2 Meter packet station that utilizes an old Macintosh SE computer with the PacketMac modem, a handie-talkie transceiver serving as the portable radio for that purpose. We are off packet when we have a house guest, but in general we have found our station arrangement pleasant to live with and comfortable to use. **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!

Giggling on the tower

Fred Jacobazzi, WD9HBG

While helping a friend named Art Evans, KA8KLZ, who lives in Cuba City, Wisconsin, rearrange his antennas on top of his 40' tower a funny thing happened — at least I thought it was funny.

After spending most of the afternoon on top of a 40' tower arranging an HF tribander and various VHF and UHF Yagis, I surveyed my tower crowning artistry making sure that all was connected, that there was enough slack for the rotation of the rotator, and that the jumpers were connected to the two hard lines running down the tower leg. It was a work of art!

All that was left to do was to secure the two hard lines to the tower leg on my way down. Like most guys who enjoy working on a tower, I have my habits. One habit is that I carry all my tools and supplies in a 5 gallon bucket, tied off to my belt so that the bucket swings free about a foot below my feet. That way it doesn't bang into my leg.

While coming down the tower I secured the hard line twice per section. When I got to the second section from the ground, I pulled my bucket up to dig out a couple more hose clamps. Art walked over to the base of the tower and looked up the tower leg to check that the hard line was straight. It was at this precise moment that I dropped my bucket which hung a foot below my right foot.

The next thing I heard from Art was "Darn it Fred why don't you just go ahead and kill me, rather than scare me to death." When he looked up the tower leg, I dropped the bucket and the bucket came to a halt about 4 inches above his upturned nose!

The result was a furious friend, and an extra 20 minutes on the tower because I couldn't stop giggling. **WR**

Congratulations to WD9HBG on his Amateur "Hi" selection for the month of July!

Protect your BNC connector with this easy mod

Bob Phillips, KA2VKU

Have you ever noticed that when you flex your antenna, (with a BNC connector on it) that you can see the BNC connector rocking on the mating connector. This may not look like a big deal but just think; if the outside can move then the inside pin must move too.

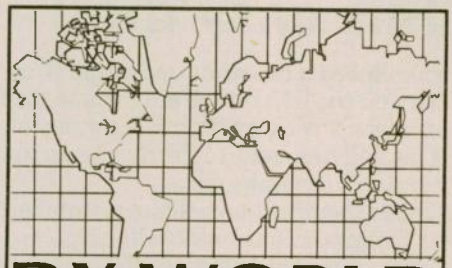
Take a close look at the pin on the antenna and the connector on the HT, and it's plain to see that there is not as much room for movement inside.

Here is a simple modification that you can perform on your HT to help prevent damage to your HT's connector or rubber duck antenna.

Almost any hardware store will have rubber "O" rings. By placing an "O" ring over the connector on the HT and then putting the antenna on, the "O" ring keeps a constant and equal pressure on the BNC of the antenna so that it doesn't rock on the HT connector. This will help reduce the flexing on the center of the antenna.

This modification will not prevent all of the movement but it will help.

Any handheld using a BNC connector should benefit from this quick and inexpensive modification. It worked well on my HTX202. —WARC *Feedback*



DX WORLD

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

W-100-N

Congratulations to the following DXer for completing the necessary requirements for ***Worldradio's*** *Worked 100 Nations Award:*

492. YB8BYS Sjamsuddin HF (Sam)

Since the present W-100-N began back in 1978, nearly 500 certificates have been issued. Indonesia seems to be the top of the list in popularity of our award in DX countries. IOTA chasers please take note that Sam operates from Sulawesi Island (OC-146).

Monaco (3A)

To celebrate Marconi, 3A100GM was active 21 April through 21 May. Other activity from Monaco included 3A2CC on 20 Meters CW. A good spot to look for this one is 14.007 to 14.012 MHz after 1630 UTC. Seventy-five meters was represented by 3A2MD who was on several times during April in the 3.794 to 3.799 MHz slot after 0300. Most often he was working Europeans. Near 10.103 MHz, 3A2LZ was worked around 1800 UTC. This was the only report for this station, and he was working Europe.

Sri Lanka (4S)

Canadian *Long Skip* reports that 4S7RPG will be shutting down about now. Evidently, he had shut down long ago as we have seen no reports of activity for this one. Twenty meter CW finds 4S7WP anywhere between 14.006 and 14.028 MHz. Try looking for this one around 0100 UTC. Here in California, the long path route is often the best. Other activity from Sri Lanka includes 4S7DA, 4S7EA, 4S7KA and 4S7RF all on 20 SSB at various spots such as 14.185 to 14.193, 14.226 and 14.235 MHz, usually on the air at the same time as the CW op at 4S7WP. As for WARC band activity 4S7RF, was reported on 17M on April 2 at 0100 UTC near 18.145 MHz.

Spratly Island (1S)

There has been a report that the April DXpedition to Spratly Island had been cancelled. However, DUØK had been reported on 75M near 3.785 MHz around 1030 UTC on April 10. Other reports had him down on 3.505 MHz.

Scarborough Reef (BS)

The second operation to Scarborough Reef arrived as planned and shutdown the Saturday before Easter. The call used was BS7H. *QRZ DX* reports that the Chinese Radio Sports Association (CRSA) filed an application for separate DXCC country status for Huang Yan Dao (Scarborough Reef) with the ARRL DX Advisory Committee. The society has subsequently submitted several additional items of supporting documentation, as required by the DXAC. The total number of contacts was near 12,000 during the 80 hours of operation, at a cost of $13,000. This represents a figure of about one dollar per contact. The team included: Chen, BZ1HAM; Wang, BZ1OK; Olli, OHØXX; Martii, OH2BH; Petri, OH2KNB, and Tim, KJ4VH. A slide presentation of this DXpedition was made at the DX Breakfast at Visalia in April.

Kyrgyz (EX)

EX2M has been on 20M often operating from the former Soviet republic of Kyrgyz (Kirghizia). Look for this one on CW 14.011 to 14.027 MHz and on SSB near 14.224 MHz after 0100 UTC. Also reported from Kyrgyz we have the following:

EXØA	14.228 MHz	1230 UTC
EX5T	14.009 MHz	0130 UTC
EX7MM	14.030 MHz	1315 UTC
EX8A	14.021 MHz	1400 UTC
EX8F	14.018 MHz	1615 UTC
EX8M	7.006 MHz	1230 UTC
EX8MD	14.021 MHz	0200 UTC
EX8MT	14.017 MHz	0200 UTC

I found only one report of WARC band activity and that was EX8F on 10.102 MHz around 1345 UTC on April 1.

Guadaloupe (FG)

On 40M FG5ED has been working near 7.002 MHz after 0300 UTC. On RTTY, FG7GH showed on 14.083 MHz at 0015 UTC on April 11th. This is the only RTTY report we have found. Other activity included FG5FR, on 14.018 MHz at 2300 UTC, and FG5XC, on 10.108 MHz at 2000 UTC.

Mayotte (FH)

FH8CB has been reported often on 20M near 14.236 MHz. Look for this one beginning about 2200 UTC. The call has also been found on 15 between 21.217 and 21.233 MHz at 0900 and 1700 UTC. Also from Mayotte is FH5CQ who was worked the latter part of March on 21.229 MHz at 1645 UTC.

New Caledonia (FK)

On 30M, FK8GJ has been reported often. Look for this one between 10.100 and 10.106 MHz around 0600 or 1200 UTC. Also on this band FK8CP was reported near 10.104 MHz at 1330 UTC. Low band activity includes FK8FU on 40CW between 7.003 and 7.009 MHz, 1100 to 1200 UTC. Other activity was provided by FK8GJ at 7.009 MHz at 1145 UTC, FK/F5LSP between 7.004 and 7.017 MHz, 1030 to 1300 UTC, and FK8HC on SSB working Europeans on 7.085 MHz at 0600 UTC. If 40M isn't low enough for you, we have reports of FK8GJ on 3.505 MHz at 1145 UTC, and FK8CP on 1.830 MHz at 1000 UTC. If your station is restricted to 20M try looking for FK8GJ on 14.027 MHz at 0730 UTC, and FK8HC on 14.197 MHz at 0330 UTC.

Djibouti (J2)

Several activity reports were made in the various DX newsletters recently. On 20M we have the following:

J2ØSF	14.004 MHz	2315 UTC
J28CI	14.025 MHz	1745 UTC
J28EN	14.016 MHz	1900 UTC
J28FD	14.002 MHz	2200 UTC
J28GD	14.003 MHz	2015 UTC
J28JJ	14.083 MHz	1915 UTC
J28RP	14.168 MHz	1915 UTC

On 40M, J28FD has been very active. Look for this one near 7.001 MHz from 0001 UTC. WARC band activity includes the following reports:

J2ØSF	10.108 MHz	2100 UTC
J28FD	10.108 MHz	0015 UTC
J28GR	10.108 MHz	1900 UTC
J28FD	18.069 MHz	1345 UTC
J28GR	18.068 MHz	1545 UTC
J28JA	18.127 MHz	1400 UTC

Franz Josef Land (R1)

DX News Sheet reports that the Russians will soon be closing their base on Franz Josef Land, resulting in a cessation of regular Amateur Radio activity. If you still need this one, keep alert and watch for R1FJL or RX1OX/FJL. Ancient DXers will remember that Franz Josef Land was rare DX. Back in the spring of 1972 much of the rare status of this one was eliminated by the UKØZFI DXpedition. With new DXers arriving on the scene this one will approach its rare status once again.

São Tomé & Principe (S9)

A rather rare DXCC country not long ago this one was well represented recently by at least four stations. Seventeen meters has been supported by:

S92DW	18.124 MHz	1800 UTC
S92SS	18.088 MHz	2145 UTC
S92YL	18.143 MHz	2100 UTC

However, most of the activity has been on 20M. Look for S92DW who works both CW and SSB: 14.013 MHz at 2215 UTC, and 14.178 to 14.195 MHz at 2300 and again at 1500 UTC. Other 20 Meter activity includes S92SS on 14.277 MHz at 2230 UTC, S92VG on 14.013 MHz at 2215 UTC, and S92YL on 14.247 MHz at 2100 UTC. S92DW and S92YL were reported on 21.295 MHz at 1100 UTC, and 21.025 MHz at 1945 UTC, respectively. These were the only 15M reports that we found. Although it probably is late in the season, S92SS was busy on 160M near 1.835 MHz after 0100 UTC during March and April.

Macao (XX9)

The 20M band is the best place to find the elusive calls from Macao, usually in the 14.193 to 14.200 MHz portion on SSB. Calls found there during the month of April included XX9AS, XX9GD, XX9MD and XX9TTT. Look for these stations after 1200 UTC.

Other band activity included XX9AS on 3.797 MHz at 1100 UTC, XX9GD on 18.142 MHz at 0100 UTC, and XX9TTT on 18.135 MHz at 1000 UTC and 21.212 MHz at 1100 UTC.

IOTA

Fred Giles, VE3VRO, informs us that he is planning another trip above the Arctic Circle and will be active from Banks Island (NA-129) in July. The *OPDX Bulletin* notes an IOTA DXpedition, headed by Piero Pirrone, IK1TZO, the second week of August from Marettimo Island, which counts as Egadi group (EU-054). The operation will be multi- operator on several bands and modes using the call IF9/IT9AUP. The following islands were active during the month of April.

NA-092	South Padre Island	K9PPY/5
NA-137	Cousins Island	WW1V
SA-079	Rasa Island	PXØUP
SA-080	Tinhare Island	PT6AB
SA-080	Boipeba Island	PW6AB

If you worked HP2CWB/P on Isla Grande on 12 March you have NA-202 to your credit. The IOTA Committee received information to show that it did qualify to count as an IOTA island. And if you were one of the many who worked BS7H on Huang Yan Dao (Scarborough Reef) you now have AS-116. Even if DXCC credit fails to be granted, at least you have IOTA credit.

Brazilian Islands Award

The Brazilian Islands Award (DIB) is available to all amateurs and SWL who can confirm reports with Amateur Radio stations operating from Brazilian islands. All contacts must be made within the 6 to 160M bands and there are no mode restrictions. However, no cross-band or cross-mode contacts will be accepted. All contacts must have been made from the same DXCC country. To qualify for this award at least 20 islands must have been confirmed. To apply for this award, prepare a list of contacts by order of the DIB reference number, certified and signed by two licensed Amateur Radio operators that they have inspected the QSL cards, and submit with a fee of $10 (U.S.), or 14 IRC, to: Pedro Sirzanink, Rua Padre Roma 194/704, Florianópolis, SC, 88.010-090 BRAZIL. Endorsements are available for additional islands at 10 islands each for $2.00 (U.S.) or 3 IRC. Islands qualifying for this award are listed below. List includes IOTA reference numbers.

01	PYØ	SA003	Fernando de Noronha
02	PYØ	SA010	Trindade
03	PYØ	SA014	São Pedro & São Paulo
04	PYØ	SA038	Atol das Rocas
05	PP5	SA026	Santa Catarina
06	PP1		Vitória
07	PR8	SA016	São Luiz
08	PP6	SA027	São Francisco do Sul
09	PY1		Governador
10	PY2	SA071	Santo Amaro
11	PY1	SA029	Grande
12	PY6	SA019	Abrolhos Archipelago
13	PY8	SA042	Caviana
14	PR8	SA041	São João
15	PY6	SA023	Itaparica
16	PY2	SA028	São Sebastião
17	PR8	SA072	Cajú
18	PY7	SA046	Itamaracá
19	PS8	SA025	Grande de Santa Isabel
20	ZXØ	AN010	King George (Antarctic Base)
21	PY2	SA024	Comprida
22	PP5	SA026	Anhatomirim
23	PY8		Marajó
24	PY5	SA047	Mel
25	PY8	SA060	Itarana
26	PY1		Paquetá
27	PQ2		Bananal
28	PY1		Cabo Frio
29	PY1		Villegaignon
30	PW8		Santo Antonio
31	PY7		Itapessoca
32	PY6	SA062	Coroa Vermelha
33	PY3		Pedras Brancas
34	PY8		Bagre
35	PQ8	SA045	Bailique
36	PY2		São Vicente
37	PY2	SA024	Bom Abrigo
38	PY2	SA071	Moelas
39	PP5	SA026	Largo
40	PY8		Atalaia
41	PP5	SA026	Campeche
42	PY6		Boipeba
43	PY8		Mosqueiro
44	PV8		São Lourenço
45	PP7		Santa Rita
46	PP5	SA027	Arvoredo
47	PY1		Santana
48	PR7		Restinga
49	PY3		Marinheiros
50	PP1	SA067	Trés Ilhas
51	PY8		Boiucucanga
52	PY8		Melgaço
53	PR8	SA072	Poldros
54	PY1	SA079	Rasa
55	PY2	SA024	Cardoso
56	PY2	SA071	Arvoredos
57	PY2	SA024	Cananeia
58	PP5	SA026	Coral
59	PY3		Outeiro

The city of Guarujá is on Santo Amaro (DIB 10), the city of Ilha Bela is on São Sebastião (DIB 16), and the cities of Santos and São Vicente are on São Vicente (DIB 36). Boipeba (DIB 42) will count for IOTA once it has been activated. This award is sponsored by the Associaçao Expedçionários Ilhéus - AEI from Florianópolis. The award manager's call is PP5SZ, but we do not recommend including it on the envelope. This award is not an easy one to complete. May we suggest the Brazil DX Net as a source of these islands. Check for the net on 14.240 MHz, 0900 to 1000 UTC, Monday through Friday; 21.225 MHz and 28.430 MHz, 1200 to 1500 UTC, Saturday and Sunday. I have worked several Brazilian islands during the last few months with very good responses to direct QSL requests. Things are improving. Turn those beams to the south!

DX Convention status

The 43rd Annual Pacific Northwest DX Convention will be held the weekend of 21-23 July at the Renton Holiday Inn, hosted by the Western Washington DX Club. The keynote speaker will be Chip Margelli, K7JA, with Chod

Harris, VP2ML, as the breakfast speaker the following morning. The complete convention package will cost $49, the same as it did in 1992.

The RSGB 1995 International HF Convention will again be at the Beaumont Conference Centre near Heathrow Airport. The convention program will include such topics as DXpeditions, IOTA, DXclusters, contesting, and other DX related subjects. Also included is a Saturday evening DX dinner. The dates this year is the weekend of 9-10 September. For further information send an SAE to Marcia Brimson, RSGB HQ, Lambda House, Cranborne Road, Potters Bar, Hertfordshire, EN6 3JE, U.K. I will include additional information as we receive it.

DXCC Processing status

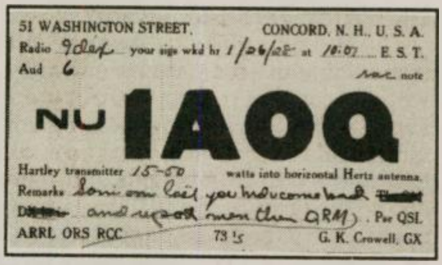
The DXCC Desk reported that the number of unprocessed applications at the end of March was 163, (16,389 QSL cards). A total of 561 applications (45,653 QSL cards) for endorsements and new awards were received during the month.

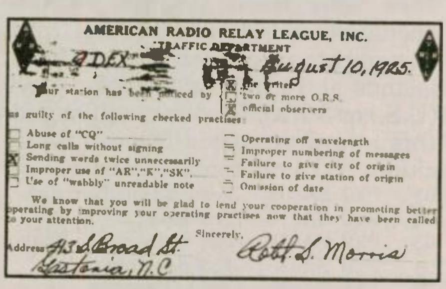
Other DXCC matters

The ARRL Awards Comittee voted 5 to 2 to accept a modified ARRL DX Advisory Committee recommendation to add a minimum-size rule to Point 2 (Separation by water) of the Countries List Criteria in the DXCC rules. These changes add the following paragraphs to the existing rules under Point 2: *"(c) An island is defined as a naturally formed area of land surrounded by water, the surface of which is above water at high tide. Rocks which cannot sustain human habitation shall not be considered for DXCC country status. (d) An island must meet or exceed size standards. To be eligible for consideration, the island must be visible, and named, on a chart with a scale of not less than 1:1,000,000. Charts used must be from recognized national mapping agencies. The island must consist of a single unbroken piece of land not less than 10,000 square feet in area, which is above water at high tide. The area requirements shall be demonstrated by the chart."*

This was a hot item during the DX Forum at Visalia with the majority considering it a stupid rule. As all land masses have been discovered today, only about a couple of possible new ones could be added to the DXCC countries list if this rule were not in affect. The real concern is that of Huang Yan Dao (Scarborough Reef).

The application for separate DXCC country status already had been submitted prior to this rule 2 change,





which many feel will be retroactive. If retroactive it is, we will lose a lot of existing DXCC countries. Refer to my coverage on the Visalia convention to see who your opponents are on the ARRL Awards Committee. Interesting is that they are League employees and can't be voted out at the next election. No, N6JM did not work BS7H!

Antique QSL department

Let's go back a few years with our antique QSL cards. Jerry Faas, W6KMI, sent us a batch of old cards recently that he picked up at a coin and stamp store in Fresno. The cards were from the collection of Donald M. Wherry, W9DEX, of Churdan, Iowa, (later WØDEX), and finally a move to California to become W6EUM.

The first card is that of NU1AOQ of Concord, New Hampshire, operated by G.K. Crowell. The date of this contact was 26 January 1928. No band is indicated. When official prefixes were finally established the call NU1AOQ became W1AOQ. As far as we know Gilman K. Crowell, W1AOQ, is still active in Concord. The next card 9ZT-9XAX was really for an 'eye-ball' QSO. The hand written comment says "Sure enjoyed Ames Convention OM 73." Real old-timers will recongnize that gentleman as the late Don Wallace, W6AM. Don was with the Peerless Electrical Company out of Minneapolis and the year was 1924. The text of the card is black with the call printed in red. The third card is an OO report. Evidently, Don, 9DEX, repeated himself too much as the 'violation' was "sending words twice unnecessarily." The ARRL official observer was a Robert S. Morris of Gastonia, North Carolina. Man, talk about being picky. I was SCM (now SM) here for Sacramento Valley over 20 years ago and I never heard of such an OO noted violation.

Evidently, the League approached these reports a bit more realistically. Actually, a good one to note as a violation today is the improper use of "QSL" by the phone operators. A sentence doesn't go by without QSL being injected. And, how about incomplete calls such as the "last two?" Donald Wherry is no longer licensed and may be a Silent Key. As a matter of interest all of these cards were printed on penny postcards. Yes, you youngsters! One cent!! The Robert S. Morris, who sent the OO report is not the Robert S. Morris, W4MYA, who is very active from Goochland, Virginia. The report was made long before he was born.

Miscellaneous

Bill Manson, KN6RH, asks the differences of the CE and XQ calls in Chile. As far as we know is the XQ prefix is being by those who hold a Chilean "Extra Class" license. That is what I heard some time ago. Bill would also like to know the relationship between the PY and ZY calls in Brazil. He commented that he heard in a recent *CQ* phone contest that several U.S. stations seemed ecstatic over making a ZY contact and thanked the ZY op profusely for a new country. Bill wants to know if he is missing something. From my past contest experience the Brazilian stations are always subsituting their PY prefix for the special event ZY (or ZZ or whatever) prefix. However, perhaps it was a ZYØ and he could very well have been on one of the Brazilian offshore islands DXCC countries. Most likely it was an example of uninformed DXers. The ARRL logbooks and the *Callbook™* include a page on the ITU callsign allocations.

QSL Information

Everett C. Bollin, WA3DVO, from the tone of his note is irate over receiving QSL requests for 8P6CV and wants us to inform our readers that he will

QSL routes

3A/KØKV	—KØKV	9K2MU	—WA4JTK	D68QM	—ON4QM	KC6IY	—JF6BCC	RR9W	—RW9WA	VP2EN	—AA4NC
3A1ØØGM	—3A2LF	9K2ZZ	—W8CNL	DL8CGC/P	—DL8CGC	KC6ME	—JG2EBN	SØRASD	—EA2JG	VP2MEJ	—W5ASP
3D2HI	—JA1KJW	9MØA	—JA9AG	DL8CZG/P	—DL8CZG	KC6WW	—JA2NQG	S21B	—W4FRU	VP2MGF	—WB9HRO
3D2HK	—JR1LVB	9M2AX	—JA5DQH	E2ØAT	—Bureau	KD4JHX/KHØ	—JI1CEL	S21YC	—JH8XIZ	VP2MGP	—N5RP
3D2ID	—JF1XXG	9M6/JF2OWA	—JA2AKW	E21AOY/8	—DL9MDZ	KG4ZE	—K4SXT	S21YO	—JA2KTP	VQ9LW	—WA2ALY
3D2KZ	—JA8VE	9M6/JG2ANR	—JA2AKW	EL2PP	—N2CYL	KHØ/KH2GR	—JF6BCC	S21ZV	—JA2KTP	VR2NR	—WA3RHW
3D2MU	—JA8YE	9M8BT	—N5FTR	EM2I	—UT2IZZ	KHØCS	—JA6PFR	S79PT	—DJ4PT	XE3/NE8Z	—K8LJG
3D2SH	—JA1JQY	9M8RC	—HL5AP	EO5ØFI	—UXØFF	KHØN	—JA6CNL	S92DW	—LX2DW	XR4M	—CE4MLN
3D2XC	—JE1DXC	9N1AA	—JM2HBO	EO5ØHZ	—W2HNK	KHØO	—JH6EYL	SVØHS/SV9	—DJ8MT	XT2SA	—D2SA
3V8BB	—JF2EZA		(See Note 2)	EO5ØWL	—SP5IUL	KH2GQ/KHØ	—JE6DND	SV9/PA3BWK	—PA3CBU	XU1MF	—JA1JTU
3W6JP	—JA1IED	9N1AS	—JH3PAS	EW1AAA	—F6AML	KH2GR/KHØ	—JF6BCC	T2ØXC	—JE1DXC	XW1BOD	—JA2BOD
4F2BP	—DU2FGG	9N1AT	—JH8BSY	EX2M	—DL4MFM	KH2V/KH6	—JA8RWU	T3ØXC	—JE1DXC	XW2A	—JA2EZD
4K8F	—UA9AB	9N1CC	—JH8BSY	EY8/K4YT	—K4YT	LØM	—LU1UM	T31AB	—KE9A	XX9TJZ	—JA7FWR
	(See Note 1)	9N1IB	—JP1WNY	EY8/NP2AQ	—K4YT	L3HP	—LU1HPW	T31JK	—GWØOJK	XX9TR	—KU9C
4L8A	—OZ1HPS	9N1IZ	—JH8XIZ	FH5CQ	—F6ITD	L5P	—LU4DRC	T7A	—YU7GMN	XX9TTT	—DK5WN
4N73N	—YU7FIJ	9N1WN	—JP1WNY	FOØKUS	—JA1ELY	LN1V	—LA4LN	T99W	—DL1QQ	XX9TZ	—KU9C
4S7/HB9BRM	—HB9BRM	9U5MRC	—G3MRC	FOØMUK	—JA1EUT	LP4H	—LU4HH	TA2ZP	—JA2BDR	YBØARN	—KC9XN
4U/KCØPA	—VE9RHS	9V1ZW	—JR1NHD	FOØSSA	—JA7KAC	LP9DX	—LU9DUW	TG9/F5UKV	—F6EPN	YJØAXC	—JE1DXC
5B4AFJ	—F6EAY	9X/ON4WW	—ON5NT	FOØTOH	—JA1OEM	LTØA	—LUARL	TI5/KBØHML	—K3BQV	YQ4A	—YO4KCA
5N1DMA	—W4DVJ	9Y4SRR	—KD4UDU	FO5IW	—JA1ELY	LT1H	—LU1HLH	TJ1AB	—KE9A	YS1ZV	—KB5IPQ
5R8AL	—WA4VDE	A35BM	—K3CE	G4MFW/ZL8	—KA1JC	LT1V	—LU1VV	TMØPR	—F5JOT	YT9N	—YU7FIJ
5R8ED	—LA1SEA	A35HS	—JA2PKT	GB5ØLIB	—GU3HFN	LV1V	—LU1VV	TMØRAD	—F6KNN	YZ5ØAA	—YU1FD
5TØAS/P	—IT9AZS	A43GI	—A47RS	GM/HB9LEA/P	—HB9LEA	LW8EYK/Z	—LU8EDL	TM5CLS	—F8IUI	Z31VP	—DJØLZ
5T5JC	—F6FNU	A51/JH1AJT	—JH1AJT	GM/HB9LEK/P	HB9LEK	LX4A	—LX1NO	TO5GI	—F6ASS	Z32JA	—WA4JTK
	(See Note 1)	AHØAV/KH2	—JH6RTO	HI3Y	—HI3MTU	LX4B	—LX1TI	TO7I	—F5JYD	Z32XA	—KM6ON
5V7MD	—AB7BB	AH6JJ/AH2	—JI1DLZ	HKØ/GØSHN	—F6AJA	NP2N	—WØANZ	TP8CE	—F6FQK	ZA1MH	—Z32KV
5W1GEH	—K8VIR	AI5P/VP2E	—AI5P	HL9DC	—N7RO	OF1AA	—OH1AA	TT8AB	—IK3NAA	ZB2M	—F6FNU
5W1MM	—JE6IBJ	BV/JQ1VNM	—JQ1VNM	HP9I	—HP2CWB	OHØ/OZ1FG	—OZ3ZO	TU4EV	—DL3KBQ	ZD8KJ	—GØFXQ
5X4D	—IN3DYG	BVØFMT	—JP1RIW	HR2DPC	—AA5ET	OM5TX	—OM3THR	UAØAZ	—W3HNK	ZD8WD	—G4RWD
5Z4SS	—JA1SQI	BV9AYA	—BV2KI	HR4/F2JD	—F6AJA	OT4O	—ON7WR	UNØG	—N8LYN	ZF1DX	—W8BLA
5Z5DU	—KG4X	C6AGN	—W1SE	IC8/IK8VRS	—IK8VRS	P39P	—5B4ES	V21CW	—KA2DIV	ZF2RB	—KG6ZQ
6D2X	—K5TSQ	CEØ/JA7AYE	—JA7ZF	IF9/IT9AUP	—IK1TZO	PJ7/AI5P	—AI5P	V31MD	—K2MDM	ZF2RO	—JH1ROJ
6Y5DA	—VE4JK	CN2GB	—I5JHW	II4ARI	—IK4QIB	PJ7/WB5JHK	—WB5JHK	V31VW	—W7WY	ZF2WH	—AH9B
7Q7UM	—JA1UMN	CN2SM	—EA4EII	IN3QCI/TI5	—IN3QCI	PJ8AA	—N4XO	V47XC	—GØDXC	ZK3MM	—JE6IBJ
8Q7AI	—DL1IAI	CN2SN	—I5NSR	IU2P	—I2PJA	PPØF	—PP1CZ	V63EF	—JA2EU	ZL9GD	—ZL4MV
9G1BJ	—G4XTA	CN5I	—I5JHW	J2ØSF	—F5LBM	PT6AB	—PS7AB	V63ME	—JG2EBN	ZS95WRT	—ZS6AJS
9H3SB	—DL5XAT	CN8UX	—EA2LU	J28FD	—F5LBM	PU2MHB	—PY2EYE	V63WW	—JA2NQG	ZVØW	—PP5JR
9H3UD	—DL8OBC	CQ5FIL	—CT1FLJ	JWØH	—LA5NM	PW6AB	—PS7AB	V73C	—N4GAK	ZV5AS	—PP5AS
9H3UF	—DH1OAH	CQ6DQM	—CT1DQM	KC6AS	—JA3JM	PYØF	—PP1KZ	VE9OM/9X	—VE9OM	ZW3A	—PU3LOM
9H5ØVE	—9H1ARC	CT3/G4AFJ	—G4AFJ	KC6CW	—JA2NQG	R3AAA/Ø	—RV3DDZ	VK9EHH	—K8VIR	ZW5B	—PY5EG
9J2HN	—JH8BKL	CU3DX	—CU3AN	KC6HK	—JE6DND	RJ4W	—UA4WE				

not accept any cards for 8P6CV either direct or via the bureau. We decided to check our back issues well over a year and found no such route. In fact we found a route for only one 8P6; the rest were calls with the 8P9 prefix. Perhaps, OM, your best bet is to approach 8P6CV directly on this. It could be a pirate operation.

QSL Routes

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

4S7DRG	—Wolfgang Tute, 92/2 D S Senanayake, CL-Mawatha, Colombo 8, SRI LANKA
9H5ØVE	—P.O. Box 114, Valletta CMR01, MALTA
5R8DS	—Ben Witvliet, P.O. Box 404, Antananarivo 101, MADAGASCAR
A71BI	—Ibrahim, P.O. Box 9896, Doha, QATAR
BS7H	—Kan Mizoguchi (JA1BK), 5-3 Sakuragaoka 4 Chrome, Tama-city, Tokyo 206, JAPAN
CE8SFG	—P.O. Box 1048, Punta Arenas, CHILE
CQ5B	—P.O. Box 189, Torres Vedras 2562, PORTUGAL
HH6JH	—Rev John Henault OMI, Lynx Air, P.O. Box 407139, Ft. Lauderdale, FL 33340
J28FD	—Patrick LaBeaume, F5LBM, 38 Chemin du Plateau, 67500 Haguenau, FRANCE
P29EP	—Al Pearce, 1828 Boroko, NCD, PAPUA NEW GUINEA
RØ/UR8LV	—P.O. Box 32, Dickson Island 663241, RUSSIA
TJ1MG	—P.O. Box 257, Dschang, CAMEROON
TN7OT	—Hazel Schofield, B.P. 12, Impfondo, CONGO
TR8DF	—Dim P.O. Box 8000, Libreville, GABON
VR6DB	—Dave Brown, P.O. Box 13, PITCAIRN ISLAND, via NEW ZEALAND
YC9WVK	—P.O. Box 154, Merauke 99601, INDONESIA

NOTES:

1. Please send DIRECT only! No bureau cards.
2. This route applies for operation of 15 April 1995.

Many thanks to the following contributors: HL9HH, PP5SZ, VE3VRO, K2MDM, WA3DVO, KD4YOT, KC5ALW, W5CJZ, W6KMI, KN6RH, N6ZAE, WB8OWM, Western Washington DX Club (WAØRJY), Western New York DX Association (KB2NMV),

Salt City DX Association (KB2G), The American Radio Relay League (K5FUV), *The OPDX Bulletin* (KB8NW), Amateur Radio Action (VK9NS), *The Canadian Amateur Radio Magazine* (VE3JLP), Long Skip (VA3JS), *The Low Band Monitor* (KØCS), *DX News Sheet* (G4DYO), *QRZ DX* (N4AA), *Inside DX* (N2AU), and *The DX Bulletin* (VP2ML).

Most DXers have been aware that for the last several years field checking of QSL cards for DXCC has been permitted. Many DXers attending various conventions bundle up their cards and application forms and bring them for on-the-spot checking, thus avoiding the possiblity of them being lost in transit. This, however, does not guarantee that you won't get lost in transit. When I had my cards checked at Visalia I missed one very important point. Effective 1 January, 1994, a $2.00 checking fee was established. And, if you decide to have additional cards checked the same calendar year, that will now cost you $12.00. If I missed meeting you at Dayton it wasn't that I got lost in transit. I was home sick! Have a nice summer, de John, N6JM. **WR**

DX Prediction — July 1995

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	*(16)*	14	*15	12	*13
10	*(19)*	11	14	*(12)*	*14
12	23	*13	13	15	17
14	26	16	*(12)*	17	21
16	28	15	*(12)*	18	*24
18	28	*(13)*	*(11)*	18	*26
20	23	*(18)*	*(22)*	17	*28
22	19	20	26	*(14)*	*26
24	*(16)*	19	28	12	*21
2	*14	19	28	*10	*18
4	*15	*(17)*	26	*14	*15
6	20	16	22	15	*14

WEST COAST

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

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	*(15)*	14	*18	*(11)*	*13
9	*(17)*	*(11)*	14	13	*14
11	22	*(14)*	13	16	17
13	25	16	*(12)*	18	21
15	27	*(14)*	*(12)*	*19	*24
17	27	*(11)*	*(11)*	*19	*26
19	*25	*(13)*	*(16)*	18	*27
21	21	*(16)*	*(24)*	16	*26
23	18	*(17)*	27	15	*24
1	*15	19	28	*12	*20
3	*12	*(17)*	27	*12	*17
5	18	16	23	*14	*15

NEWSFRONT

announcements, discussion and questions related directly to Amateur Radio operators' participation in the 1995 Special Olympics World Summer Games. Although it's mainly useful for hams who expect to assist by providing communication support on-site at the Games, anyone with a serious interest, suggestions or questions may be posted on this list.

NZ: No code at WARC

New Zealand has announced that it will seek an end to mandatory Morse code testing at this year's World Radiocommunications Conference. Specifically, the New Zealand government has directed its delegation to actively seek to overturn world radio regulation R-R 2735 that requires an applicant show proficiency in the Morse code before being granted a license to operate on Amateur Radio bands below 30 MHz. New Zealand says that its telecommunications authority believes that other world radio regulations contain what they call the minimum required Amateur Radio operator qualification guidelines for licensing hams. More importantly says New Zealand, repealing R-R 2735 has the added advantage of permitting each country to establish its own criteria for ham radio licensing.

The decision by the New Zealand government to sponsor world-wide no-code licensing is a major victory for the political efforts of Oracle — the Organization Seeking Alternatives Through Code Less Examinations.

About a year ago Oracle began lobbying the New Zealand government to take a leadership role in abolishing Morse code testing. Few people gave Oracle any chance of success. Ham radio political leaders in New Zealand and around the world discounted Oracle as being a minor league player trying to gain a political foothold in the ham radio major leagues.

Possible FJL radio shutdown

Ed Kritsky, NT2X, reports he had a conversation with Slava, RX1OX/FJL, operating from Franz Joseph Land. Ed says that he was told that a possible shutdown of the polar base may happen due to budget constraints.

The base closure could take place within the next several months, and if it does, then all personnel will be removed to the mainland. This would mean that FJL will no longer be represented on the air.

Currently active from Franz Joseph Land are R1FJL and RX1OX. He was last heard on March 4th, on 14.237 MHz at 0123 UTC.

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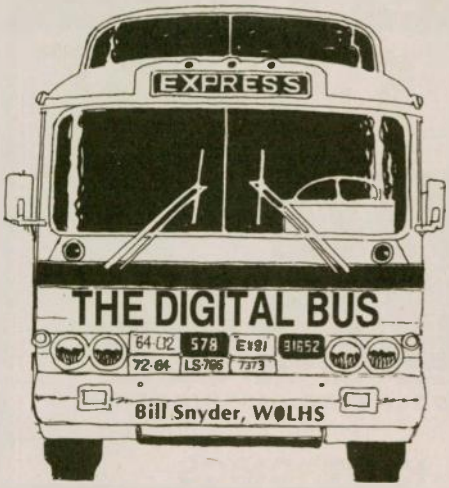

Last year I tried a very simple experiment to find out if the packet message forwarding system was reliable or not. I asked readers to send me 10 packet messages, one each day for ten days. After waiting a few months for everyone to complete the test, I compiled the results and this startling fact came to light: of the 33 people who sent me the 10 messages in sequence, only three were lucky enough to get all ten to land in my BBS, but none arrived in sequence. They all arrived in random order. That fact alone doesn't speak too well for the system, does it?

This last winter I received another set of 10 messages. It came from a YL station in South Africa; but like the others, the ten messages did not arrive in sequence. They made it in quick time; however, thanks to a SATGATE station in nearby Winnipeg, Canada. I answered all the South African messages (some arrived in groups), but I never did receive confirmation of mine getting to the young lady in Capetown.

Recently I received 4 messages from Jim, KA4AFI, a BBS operator in Alabama. He commented on the bad showing in my last year's test and is sending me 10 messages as another test of the system.

In Jim's first message he sent along the following which he asked me to publish, so here it goes:

"KA4AFT.#SEAL.AL.USA.NOAM is an Internet gateway (its name on the Internet is gate.ka4afi.ampr.org). If a gateway hiccups a packet message addressed with ".NA" and it happens to fall on the Internet side — someone in NABIA (international coordinated ".na") will be upset again for paying transportation costs of a misaddressed' piece of e-mail.

"In February '93, the SATGATES and other associated gateways adopted W3IWI's four element codes for hierarchical addressing thus making them the national standard. Once again, here are the *CORRECT* continental codes:

.EURO — Europe
.MEDR — Mediterranean
.INDI — Indian Ocean including Indian subcontinent
.MDLE — Middle East
.SEAS — Southeast Asia
.ASIA — The Orient
.NOAM — North America (Canada, USA and Mexico)
.CEAM — Central America
.CARB — Caribbean
.SOAM — South America
.AUNZ — Australia/New Zealand
.EPAC — Eastern Pacific
.NPAC — Northern Pacific
.SPAC — Southern Pacific
.WPAC — Western Pacific
.NAFR — North Africa
.CAFR — Central Africa
.SAFR — South Africa
.ANTR — Antarctic"

African stuff

I am still looking for anyone who worked the Gatti-Hallicrafters DXpedition back in the years of 1947-48. I was one of the ham operators on that expedition and I am particularly interested in records of the last week of February and first week of March, 1948. We were camped at the 6,000 foot level of the highest mountain in Africa, Mount Kilimanjaro.

During that period most of our party, including Bob Leo, W7LR, were climbing the Kibo, one of the two peaks that make up the great mountain. I was operating the base camp station while the others were spending six days ascending the 20,000 foot, snow-capped Kibo. Since all the logs of the expedition have been lost, I'd like any of *your* memories I can find of those days.

During the period the climbers were struggling up and down the huge mountain, a young lad from Chicago came riding a bicycle into our camp. He was biking around the world and had heard that an American group was up on the mountain, so he pedaled his bike up to see us. He was writing a book about his touring experiences.

He arrived about supper time, so I invited him to stay overnight. I put him in phone patch contact with his wife in Chicago via the Hallicrafters' employee's club station in the windy city. Atillio Gatti, the leader of our expedition, was listening in from his camp about 200 yards from ours. He got roaring mad at me for doing that, so he bounced the poor biker out of our camp in the middle of the African night! I was out-ranked; I could not help the poor kid.

Somehow part of my notes on that bizarre incident disappeared and I've been trying to reconstruct the whole scene from memory. I've tried reading newspapers on microfilm and searching libraries for books about bike expeditions, but no luck. So now I ask: anybody with memories?

Random thoughts

I recently did a program for the Fargo-Moorhead Advertising Federation in which I projected a batch of the motion picture television commercials that I photographed and produced nearly 40 years ago. Most of them were prize winners from the early days of small market television. The show consisted of spots for banks, savings and loans, country grain elevators, politicians and other assorted sponsors. And I topped the hour-long reel off with two commercials for a chain of hamburger stands that featured 15 cent hamburgers! It is a barrel of fun to see the techniques of nearly half a century ago.

Oddly enough, I think the commercials we made back then are better merchandising spots than some of the expensive visual junk we see on the boob tube today. Today every commer-

cial seems to be trendy in photography and editing. Short and choppy cutting; crazy camera angles; black and white titles cut in like old silent movies; and digital visual effects by the boat load are the norm, not the exception. It would appear that music videos with random shots of anything and everything has had a terrible effect on the TV commercial industry. Music videos appeared loaded with "Dutch" angle shots, now every commercial on the air has Dutch angle scenes. Even the camera accessory manufacturers are now selling special Dutch Angle tripod heads. A Dutch angle shot is one with the horizon tilted on an angle.

By the way, the *New Yorker* magazine had a story about MTV last October. The perpetrators of music videos think of their stuff as "visual radio." That should tell us something. I've often wondered if anyone ever sits down and watches any of it. My teenage grandson comes in my house, turns on the tube, switches to the music video channel, and then thumbs through the magazine pile on my end table.

Back to my movie show. In my verbal preface to the film, I listed some of the changes in methods of communication I have seen in my lifetime, and when I look back, it makes quite a string of changes.

When I was born in 1916, my grandfather was farming with horses, he had an open touring car at the time, but when he took mother and me to the train in the winter of 1918, it was in a sleigh pulled by horses. We were covered with buffalo skin robes, and on the floor of the sleigh were bricks that had been heated in the oven to keep our feet warm for the ten mile trip.

At that time Grandad had just installed the first rural telephone line in the county, and had just put a 32 volt light plant into operation. The REA didn't get to his farm until after World War II. The phone was a party line with coded rings — his was a "one long and two shorts."

In 1922 I watched my dad build our first AM radio so we could hear, on earphones, WDAY, the first radio station in North Dakota. I still have my dad's log book where he recorded hearing broadcast stations in Pittsburgh, Chicago, and Cincinatti.

My dad, a telegrapher by trade, taught me Morse Code. He wanted me to be a railroad telegrapher like he was. I told him that airplanes were going to take over the passenger business, because in 1927 I was present when Charles Lindberg landed in Fargo three months after he made his solo trip across the Atlantic. I was hooked on radio and aviation.

Years later I became an instrument-rated pilot and owned airplanes.

During World War II I wound up in the Signal Corps. There I learned about Teletype, VHF, and all kinds of other communication devices.

Television entered my life in 1953 shortly after I joined WDAY radio, the same station I first listened to. I became the film and photo director.

I had the first ham RTTY station, the first packet station, and the first AMTOR station in North Dakota. I still work through the OSCAR stations now and then. And I had one of the first micro computers in my area. So, you can see I have seen a lot of changes in the way people communicate.

I often remember September 2, 1945. I sat in a grass shack on the Philippine island of Luzon, and listened to the broadcast of the surrender end of World War II. I tuned in on a captured Japanese radio, and the tears ran down my cheeks because I was so happy. I thought to myself that there would never ever be another war, but I was wrong! Terribly wrong! Look at all the fighting and killing going on around the world. Maybe we haven't made so much progress in communications after all!

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12th Street, Fargo, ND 58103. Packet: WØLHS@WØLHS.#SEND.ND.USA.NOAM. 73. DIT DIT. WR

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Repeater coordinator's meeting update

Later this spring or summer, the ARRL will host a meeting open to all repeater frequency coordinators. The League now says that this will not be an ARRL sponsored event. Rather, the ARRL indicates that it will merely host the gathering and possibly provide facilities and secretarial services.

As far as we can tell, it will be the coordinators themselves who set the agenda. We expect to see various proposals dealing with every aspect (and I do mean *every aspect)* of repeaters and repeater operation be discussed. This may include a proposal being sponsored by the majority of the nation's 59 recognized repeater coordinators to once again institute separate repeater licensing. Remember the "WR" repeater call sign prefixes of the 1970s? Remember the technical standards that repeaters were forced to meet? One or both could return if the repeater coordinators so decide and the FCC agrees.

There are some coordinators who want a "repeater licensee exam" to certify that the person holding a license to a repeater is technically qualified to do so. Yet another one we are hearing about would do away with all "open" repeaters. Making the usership of all repeaters "selective" by the licensee so as to make "users" share in the legal responsibility of repeater system operation.

As you can see, the possible topics of discussion are as diverse as the coordination groups that may propose them. But in the end, the main thrust of the meeting will be to establish what the FCC terms as "a single point of contact" between it and the ham radio community on all matters involving FM and repeaters. After that, the FCC indicates it will no longer accept complaints, information requests, or anything else on repeater related matters.

At this moment, there are no — repeat no — proposals of any sort before the FCC, but six or seven months from now it may be quite different. Depending on the outcome of this gathering, there could be several proposals in front of the FCC and open for our commentary. I would advise any repeater owner to keep in very close touch with the ham media and their local frequency coordinator the next year or two. Changes — very conservative changes for repeater operation are in the wind. You and I will eventually be the ones impacted — as will every ham who gets a license — buys an HT or mobile rig and simply wants to operate on a repeater or on FM simplex.

Stay tuned. It's all just starting!

New Orleans repeater problems cited

The ARRL has cited an ongoing repeater related problem in New Orleans in telling the FCC that its recent track record in amateur service rules enforcement has been "dismal."

In comments on an FCC proposal to adopt a standardized schedule of monetary forfeitures (fines) for rules violations in all services, the League said that while there have been only a few cases in the Amateur Service where prompt enforcement action was needed "badly and quickly," the necessary action did not take place "despite repeated (FCC) promises."

The FCC asked for input on all aspects of a forfeiture policy statement that had been invalidated on procedural grounds in US circuit court last year. The Commission asked for input on the advisability of adopting a standardized forfeiture schedule rather than using a case-by-case approach to setting fines.

The ARRL said that the Commission has probably arrived at a reasonable forfeiture schedule but that administration of the schedule is "the more pressing matter." The League said that at issue were whether the fines were sufficient to (1) cause recipients not to violate a particular rule in the future, and (2) deter others from violating the same rule.

The ARRL said that the forfeiture proceeding (in CI Docket 95-6) should be far broader, to include a review of the overall effectiveness of monetary forfeitures as an enforcement tool, given that as presently used, such forfeitures are often either ignored or contested.

The League said that in the few cases of amateur rules violations in recent years, FCC promises of action have gone unkept and the problems "persist visibly." The ARRL suggested that forfeiture amounts for amateur rules violations be adhered to (instead of greatly reduced) and that collection efforts be carried through.

The League said that in the past four or five years the amateur service has been "very much in need" of FCC assistance in a few specific, persistent enforcement cases, but that almost no assistance has been forthcoming. "The League's representatives have repeatedly met," the ARRL said, "with the commissioners and their staffs, the staff of the Compliance and Information Bureau (CIB) at all levels, and before that with the Field Operations Bureau staff," to seek assistance with a handful of cases that were impossible to resolve cooperatively.

The League cited amateurs' long record of self-policing and said that in recent years, while the ranks of amateurs grew significantly, "it is remarkable how well the tradition of self enforcement in the Service has been sustained."

The League said that over the past three years it has consistently sought action in two cases of "repeated, persistent malicious interference" and other rule violations. "Despite repeated promises from numerous members of the CIB staff, the Commission has done absolutely nothing to address

these two cases.

"The perception," the League said, "in the minds of large numbers, perhaps the majority of active radio amateurs, due to the almost complete absence of any Commission enforcement presence, is that the Commission is a 'paper tiger' when it comes to enforcement of its own rules.

"The irony of the situation is that it would take only a very few, occasional, but visible enforcement actions in the more egregious cases to promote significant compliance results. This has always been the case, and would be today, if there was any effort at deterrence on the Commission's part."

The League went on to say that the FCC has not kept its part of an agreement between it, the FCC, and the Amateur Auxiliary (AA) program, by not using evidence gathered by AA volunteers in enforcement matters. Those volunteers have become demoralized as a result, the League said.

The League said that the FCC is handicapped in its use of forfeitures as an enforcement tool because, while it can quickly assess a forfeiture, it has no ability to collect it. When a notice of apparent liability is issued, if the subject of the forfeiture does not respond or submit payment, the matter goes to the U.S. Attorney General for collection. Red tape ensues and can lengthen the process into years. Even if a fine eventually is paid, there is no public disclosure of the payment, thus there is no deterrent value to others.

As a result of these administrative roadblocks, the League said, the FCC is forced to choose enforcement actions carefully, and there is a "widely held belief" among its licensees, and not just Amateur Radio licensees, that it is highly unlikely that a civil action will ever be instituted to collect a forfeiture assessed by the FCC.

The League cited as an example an ongoing case of malicious interference in the New Orleans area, involving Amateur Radio repeaters, where notices of forfeiture were issued to four amateur licensees two years ago and are still not collected. The ARRL said that the result has been that, since then, the interference problem has grown significantly in that area.

The ARRL suggested that standardizing monetary forfeiture amounts — as the FCC has proposed — could be one solution.

Another is following up with actual collection of the fines, perhaps through a procedure for private contractual collection of administrative forfeitures through civil litigation on behalf of the Commission. (Tnx W1AW)

A repeater in space

A ham radio satellite is really nothing more than a complex repeater in earth orbit, and the ARRL reports on one now being designed in South Africa that will include an extensive Amateur Radio package. Called Sunsat, the bird is being designed and built by engineering students at the Electronic Systems Laboratory at Stellenbosch University. It is scheduled for launch in January 1996, as announced in a release from Henry Chamberlain, ZS1AAZ.

In exchange for a US National Aeronautics and Space Administration launch, Sunsat will carry a precision GPS receiver and a set of Laser retroreflectors, for NASA's use.

The Amateur Radio payload was approved at the SA-AMSAT Spacecon '91 Conference. It includes duplicate transmitters and receivers for the 2 Meter and 70 cm bands, a 24 cm (1260 MHz) receiver and 13 cm (2400 MHz) receiver. A number of uplink and downlink frequency combinations are possible.

Sunsat will offer extensive digital communication capability. One of the 2 Meter receivers has four IF sections connected to 1200-baud AFSK packet modems. The satellite carries three G3RUH-compatible 9600-baud modems that can be switched to various receivers and transmitters. The designers say that ground station requirements are minimal. Data communication between stations running 10 watt transmitters and dipole antennas will be practical. Since large quantities of data can be stored in the satellite, global data transfer will be possible.

Sunsat also carries a number of educational experiments, including a 2 Meter "parrot" mode repeater intended for amateurs new to satellite operating. Uplinked speech will be digitally stored and retransmitted on the same frequency, enabling school users to hear the retransmission and know that they are getting through.

(Bill Pasternak, WA6ITF, receives mail at 28197 Robin Avenue, Saugus, California 91350. His 24 hour/day voice/fax line is 805/296-7180. MCI Electronic Mail 324-1437.) WR

What are your thoughts, opinions about Amateur Radio?

Write a letter and let us know and we'll place it in *"Off the Air."* That's your forum for expression.

QUARTER CENTURY WIRELESS ASSOCIATION INC.

John G. Troster, W6ISQ

Welcome aboard.

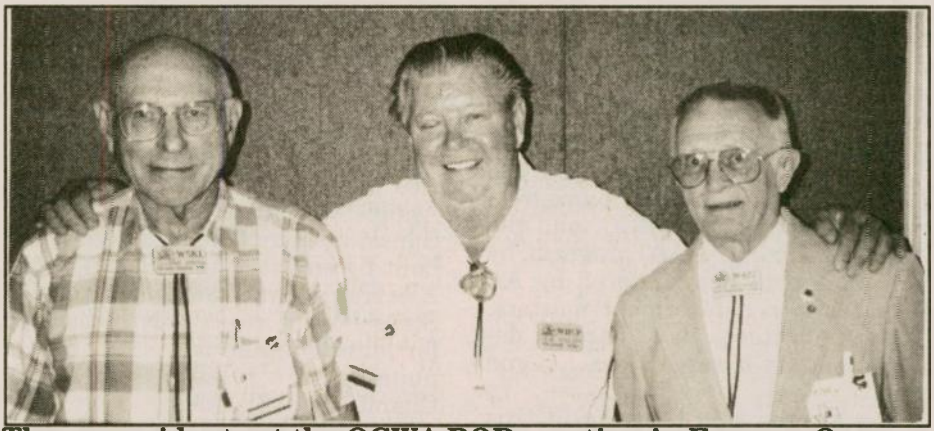
BJ, our old swab jockey General Manager up at QCWA HQ, sent me a few of the names of the newest DOGS (Distinguished Old Guys) to demand entry to our ranks of QCWA. How about these good guys: KC3AN, KE6BPN, AB5VI, KØOSB, AC6IC, N4AN? These gentlemen are now "one of us" and can stand tall knowing they are among the Proud, the Many, the Elite, the QCWA. How about some ladies? And how about you? Were you licensed 25 years ago? Write: BJ Walsh, 159 E. 16th Ave, Eugene, OR 97401 and demand the privilege of joining up. Would you say this is recruiting?

I bet that some of you thought that I was neglecting Jack Kelleher, W4ZC, in the previously published list of QCWA officers. Not so; I was merely saving his story for the following biographical sketch.

Jack Kelleher, W4ZC QCWA veep

Jack Kelleher, W4ZC, QCWA Vice President, ranks right up there at the very top of those who have contributed, and continue to contribute, to Amateur Radio. In early 1973, A. Prose Walker, W4BW, then Chief of the Amateur Branch of the FCC, recruited a few knowledgeable amateurs to prepare a report to justify a request for new HF amateur bands. Jack was one of those selected. He puts it this way: "As a member of the FCC Advisory Committee for Amateur Radio for WARC-79, I participated in a propagation study which led to U.S. proposals for new bands at 10, 18, and 24 MHz, the so-called WARC bands, which were later approved for amateur use." This preliminary study led to the assignment of those frequencies for Amateur Radio use in 1979 by the World Administrative Radio Council. It was an important study for all of us.

Jack has engaged in unusual works like this ever since he was an eager broadcast listener in Red Bank, NJ in the late '20s and early '30s. Jack got hooked on radio, as many of us did, by listening to late night DX on the broadcast band after the eastern stations signed off. He soon met other high school BCLs who were similarly smitten. One of his new friends was Bob Johnson, W2AWL, whose father owned a local 100-watt daytime-only broadcast station. Young Bob had his ham rig at the station, and when the BC station shut down in the evening, he went on the air with his pair of 204s plate modulated by a pair of 212Ds running a full bore kilowatt to the wire cage antenna up about 70 feet. He was heard! This made a big impression on young Jack, then and there, irretrievably bitten by the ham bug.



Three presidents at the QCWA BOD meeting in Eugene, Oregon, April '95. From left to right: Leland Smith, W5KL, OOTC president, Lew McCoy, WI1CP, QCWA president and Jack Kelleher W4ZC, SOWP president. ***—photo by W4COW***

In 1932 Jack passed the General Class exam and received the call W2DSV. He bought his first transmitter for $15 from W2DIU, a Signal Corpsman at nearby Fort Monmouth. It was a crystal-controlled oscillator transmitter with a pair of 210s, and he built his own three-tube, battery-operated receiver, using the familiar tried-and-true 30-30-33 tube circuit.

Then, in November 1932, at age 18, Jack joined the Signal Corps at Fort Monmouth and spent the next eight months in code school learning to be a "straight key" military radiotelegraph operator. In June 1933 he was shipped to Fort Sam Houston, Texas to be an operator on the military circuits between that post and the other major bases in the USA. While there he got the call W5FIP, but not being able to afford the equipment contented himself with putting the Fort's WVB, on the amateur bands. Later he returned to Fort Monmouth for eight months to go through maintenance school, then back to Texas as a Transmitter Attendant and radio operator until August 1936, when he was discharged from the army.

In March, 1937 Jack went to work for RCA Communications pounding brass on the international commercial circuits in lower Manhattan, New York. Now, with a bit more cash on hand, he got back on the air with his MOPA rig and a three tube receiver. He did a lot of building and operating in those years and wound up with a pre-war total of 51 countries and WAC, never using over 100 watts to a zepp antenna. He speaks with affection of those old paraffin soaked dowel rod spreaders for the feed line. *Those soaked dowels are great. Your scribe still uses them on a center fed zepp which has been strung up for over 30 years!*

As the military buildup began in 1940, Jack decided to return to the Radio Maintenance and Test Section of the Signal Corps as a civilian employee. His section, an R and D unit, tested new equipment to meet Army specifications and readied new tactical equipment for the field. Jack participated in the development of the first VHF equipment for tanks. The original contract with Western Electric Company was for AM rigs, but experiments with FM showed much greater promise, and the contract was modified to use FM equipment. This work took Jack around the country demon-

Jack Kelleher, W4ZC —*photo by W6ISQ*

strating equipment to Boards of the Infantry, Artillery and Armored Branches of the Army. In September 1940, he was advanced to Radio Mechanic (Unclassified) at the then astounding salary of $1800 per year!

During the summer of '41 the Secret Service contacted the Signal Corps for assistance in updating protective communications for President Roosevelt. Jack was on the team selected to do the job. The idea was to follow the president around with HF transportable ground equipment ordinarily used for ground-air communication. The rest of that year, Jack spent a lot of his time traveling with the president between Washington and Hyde Park.

On December 8, 1941, he was sent to Washington on a temporary, ten day duty. Not exactly. He's literally been there ever since. He became part of a group that formed to become the White House Signal Detachment. It's now called the White House Communications Agency. This group installed VHF base stations on hills surrounding Washington, and Motorola VHF police radios into Secret Service vehicles. They also set up a network of VHF stations from Washington to Philadelphia to New York to Hyde Park, so they could have continuous coverage as the President traveled between Washington and Hyde Park.

Recognition and advancement followed. In the spring of 1942, Jack was reclassified a Radio Engineer, "becoming," as he says, "an engineer by decree rather than degree." He was transferred to the Office of the Chief Signal Officer, a move that would help him tremendously in his later career.

Assignments in those days were both exciting and challenging. At one time Jack worked with a team to equip a railroad car with complete HF radio equipment. This car was attached to the Presidential train for FDR to tour the country on morale boosting excursions, a kind of an Air Force One of the war years. One little problem: How to put an antenna on the roof of the railroad car of an electrified railroad? Answer: Put the antenna wires inside a bakelite tube and insulate it from the car roof by power line insulators.

In December, 1942, Jack was sent to North Africa to develop a trunk line communications system from Eisenhower's HQ eastward to maintain contact with the General no matter where he was. By July '43, he was back at the Pentagon and remained there until '62, working as a civilian Project Manager. His principal work then involved microwave relays and tactical radio and radar development.

In 1962, Jack switched to NASA and became Project Manager for operational aspects of experimental communication satellites. In 1963 he became a member of the U.S. delegation to the ITU frequency allocation conferences, participating in activities of the ITU's International Radio Consultative Committee (CCIR) developing criteria for satellite communications equipment. At that point there were no new frequencies for satellites, so ways to share bands between the services and still assure frequency availability suitable to space systems had to be newly devised. Jack retired from Federal Service in 1969 but continued ITU/CCIR activities as a private sector employee until 1991.

After WWII, living in a one-room apartment with his wife and one son, Amateur Radio had a very low priority. By '72, however, they had moved to Annandale, VA and the ham bug began biting again. He got the call W4RAE and a DX-100 and got back on the air. To find out what was going on locally, Jack joined the local Chapter of the Society of Wireless Pioneers (SOWP) and also QCWA, in what is now known as the Vic Clark Chapter. He's been president of both Chapters.

In November 1991, Jack began writing the monthly FCC column for *Autocall* published by the Foundation For Amateur Radio. He writes a similar column for ***Worldradio***, and the QCWA Journal, authenticating his information through his numerous contacts in the FCC. Jack has received many honors during his career. The Army medal for Meritorious Service in 1960, an Exceptional Service Medal from NASA in 1969 and an IEEE Centennial Medal in 1984. He's a Life Fellow of the IEEE, a Fellow of the Radio Club of America (RCA), a Life Member and now Vice President of QCWA, a Life Member of SOWP, and since July 1994, President of the SWOP.

He's still an avid ham and you will find him mostly on CW using his fifth generation Ten-Tec Paragon II, a Collins 30 L1, a full-sized three element Yagi on 20 Meters and a 270 foot horizontal loop for the other bands. You'll always find him in the QCWA QSO Party and he's active in local VHF nets around Washington.

Jack now lives in Olney, MD. He and his second wife Margaret, between them count nine grandchildren, six step-grandchildren and one great grandchild.

Next time you tune up on the WARC bands, you can remember that our QCWA Vice President, Jack Kelleher, W4ZC, had an early, influential part in securing those amateur bands. Thanks, Jack, from all of us.

CUL 73 + 25 Jack, W6ISQ WR

My 1920 antenna

Russ Rennaker, W9CRC

The only band amateurs allowed in the early days was around 200 Meters. No one had heard of kilocycles then. When I went to build my antenna for my spark transmitter I had no idea what size to make it. No one had any way of measuring the frequency anyway.

I set two 60 foot telephone poles 200' apart with one pole close to the tool shed where my wireless station was located. I strung four copper wires on 2 by 2 inch wooden "spreaders" and tied all the wires together at the shack end and brought the "lead in" down with one wire to the station. The lead in came through the wall of the tool shed through an impressive looking insulator I had liberated from the local telephone company. I had a large knife switch, single pole-double throw, to ground the antenna when it was not in use. The blades on that switch were about ten inches long!

That antenna caused a great deal of excitement though. Sometimes the sunlight would catch those copper wires just right and swaying in the breeze would cause a flashing light that could be seen for miles. Many times a Model "T" or an old Maxwell would turn off the main road a mile away and drive down the country road past our house just to see what the flashing light was all about. Sometimes they would stop and ask, but mostly they would just shake their heads and drive on past.

But some of the visitors were interesting. Once the editor of the newspaper in the county seat ten miles away stopped and talked to me. He wrote a story in the paper about my station. Some weeks later he came back with the mayor of the town and a business man who was an electrician. That electrician and I became good friends and he helped me many times in the years ahead. As for the newspaper editor, he became my first boss when, a few years later, I built and operated a radio broadcasting station for the newspaper. **WR**

HE'S TRYING TO WORK SOME DX MENTAL TELEPATHY SO HE FIGURES A 600 WATT AMP WILL HELP

Visit Your Local RADIO CLUB

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

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 Hz.

ARIZONA

Arizona Repeater Association. P.O. Box 35758, Phoenix, AZ 85069-5758. Operates 15 VHF & UHF rptrs. in AZ. Meets 4th Thurs./monthly, 7:30 p.m., 1515 E. Osborne, Phoenix. Info: (602) 631-4879.

Central Arizona DX Assoc., (CADXA). Meets 1st Thurs./monthly, 7 p.m., Salt River Project Pera Club, 1/2 mi. West of 68th & Continental Dr., Scottsdale, AZ. Rptr. K5VT 147.32(+). Packet Cluster nodes (S): 145.09, 144.93, 145.03. Info: (800) 283-4319 or (602) 876-2718.

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.

Tucson Repeater Assoc., P.O. Box 40371, Tucson, AZ 85717-0371. Meets 2nd Sat./monthly, 7:15 p.m., Pima Co. Sheriff Bldg., 1750 E. Benson Hwy. Net Thurs. 7:30 p.m. 146.82(-), 146.88(-), 147.08(+), 448.550(-) & 145.15 Packet.

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(-).

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.

Amateur Radio Club of El Cajon, WA6BGS. P.O. Box 50, El Cajon, CA 92022. Meets 2nd Thurs./monthly, 7 p.m., La Mesa Church of Christ, 5150 Jackson Dr., La Mesa, CA. 224.08(-). PL 107.2. Nets 147.570 Wed./Sat., 7 p.m. Info: (619) 697-2700.

Contra Costa Communications Club, Inc., WD6EZC/R. P.O. Box 20661, El Sobrante, CA 94803-0661. Meets 2nd Sun./monthly (except May & Dec.), 7 a.m., Baker's Square Restaurant in Richmond, CA. Info: Ed Caine, KA6OFR, (707) 996-0962.

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.

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.

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

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.

Gabilan Amateur Radio Club, (GARC). P.O. Box 2178, Gilroy, CA 95021-2178. Meets odd months, 2nd Thurs., 7:30 p.m., Wheeler Manor Hosp. Rec. Rm., corner of Sixth & Carmel St., Gilroy and even months for brkfst., 3rd Sat., 8:30 a.m. (408) 623-2462.

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. 110B, Chico.

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

Lake County Amateur Radio Society, (LCARS). Meets last Thurs./monthly at either Red Cross HQ, Clearlake, or the Nice Community Clubhouse, Nice, CA, 7 p.m. Net Mon., 7 p.m. 146.775(-) for info.

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) 447-3815.

Manteca Amateur Radio Club (MARC). P.O. Box 545, Manteca, CA 95336. Meets 1st Thurs./monthly, #1 Firehouse, 7 p.m. Talk-in on club rptr. 146.985(-) PL 100Hz. Info: (209) 823-3611.

Marin Amateur Radio Club (MARC). W6SG. Box 151231, San Rafael, CA 94915-1231. Meets 1st Fri./8 p.m.; MARC Clubhouse Bldg. 549, HAFB, Novato, CA. (415) 883-9789 (Summer exceptions; contact Pete N6IYU, 924-1578). Sun. AM Club at Red Cross, San Rafael.

Motorcycling Amateur Radio Club. Meets 2nd Sat./monthly, 8 a.m., Denny's Restaurant, 22611 Oakcrest Cr., Yorba Linda, CA at Weir Canyon, off the 91 Fwy. Info: Ray Davis, KD6FHN, (714) 551-2010 or (714) 551-1036.

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.

North Shores ARC. Meets 1st Tues./monthly, 7:30 p.m., So. Clairemont Rec. Cntr., 3605 Clairemont Dr., San Diego, CA. Info: (619) 224-1294.

Palos Verdes ARC. Meets 3rd Wed./monthly, 7:30 p.m., Community Rm., "Shops at Palos Verdes," 550 Deep Valley Dr., Rolling Hills Estates, CA. Info. Ms. Marti Brutcher, N6XDS, (310) 376-1861 or (310) 377-6342. Rptr. 145.38(-) PL 100.

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.

Sacramento Amateur Radio Club. Meets 2nd Wed./monthly, 7 p.m. Sac. Blood Ctr., 32nd St. & Stockton Blvd., Sacramento, CA. Info net every noon on rptr. W6AK/R 146.91(-). Steve Cates, KC6TEV, (916) 391-7341 or Gary E. Bryant KB6KZZ, (916) 646-1171.

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.

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.

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

Sierra Foothills ARC. P.O. 3262, Auburn, CA 95604. Meets 2nd Fri./monthly, 7:30 p.m., Firehouse, 226 Sacramento St. Auburn. 10m, Wed. 7:30 p.m., 28.415, 2/220m, Thurs. 7:30 p.m., 145.430(-) (PL 94.8) & 223.86(-).

So. Sierra ARS. Meets 2nd Thurs./monthly, 7 p.m., Veteran's Mem. Hall, 125 East F St., Tehachapi, CA. Contact: C. Parsons, KD6KMN, (805) 822-5995. 147.06/224.42.

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.

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.

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).

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

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.

Vaca Valley Radio Club. Meets 2nd Wed./monthly, 7 p.m., Vaca Fire Dist. Stn., Vine St. in Vacaville, CA. Rptr. WD6BUS 145.47(-) PL 127.3. Dan Bissell (707) 446-7411.

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. 145.440(-) PL 136.5. For info: Joe, KA6LPZ, (714) 963-4426.

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.

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.

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.

Yuba-Sutter Amateur Radio Club, (YSARC). P.O. Box 1169, Yuba City, CA 95991. Meets 2nd Tue./monthly, 7:30 p.m., Yuba City Police Bldg., 1545 Poole Blvd., Yuba City.

CONNECTICUT

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, KA1BB, (203) 739-8016.

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.

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.

Port St. Lucie ARA. Meets 1st Fri./monthly, 7:30 p.m., St. Andrews Church, Prima Vista Blvd., Port St. Lucie, FL. Contact: Wes Sammis, W2YRW, (407) 878-4739. Call in 146.955(-).

Saint Petersburg Amateur Radio Club. Meets 1st Fri./monthly, 7:30 p.m., Red Cross Bldg., 818 Fourth St. North, St. Petersburg, FL. Nightly nets 6:30 p.m., 147.06(+), 224.66(-). Rptrs. 147.06(+), 224.66(-), 444.475(+). Info: R. Russell, N4ZMQ, (813) 896-2518.

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.

Suncoast Amateur Radio Club. P.O. Box 1992, New Port Richey, FL 34656-1992. Meets 2nd Mon./monthly, 7:30 p.m., First Lutheran Church, corner of Polk & Delaware, New Port Richey, FL. Sponsor of WC2G/rptr. on 145.35(-), serving west Pasco County.

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.

GEORGIA

Dalton Amateur Radio Club, Inc., (DARC). 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.

HAWAII

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

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) 595-6245.

IDAHO

Idaho Society Radio Amateurs. Boise Chapter 146.94. Meets 3rd Tues./monthly, Borah H.S., 7 p.m. Rptr. at 8000'. Membership welcome. 146.94(-).

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.

Dupage Amateur Radio Club. (DARC). P.O. Box 71, Clarendon Hills, IL 60514. Meets 4th Mon./monthly, 7:30 p.m., Holy Trinity Church, SE corner of Cass & Richmond, Westmont, IL. Net Sun., 9 p.m. on 145.25. W9DUP repeaters 145.25(-) (107.2PL), 442.55(+) (114.8PL), 224.68(-).

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.

Hamfesters Radio Club, W9AA. P.O. Box 42792, Chicago, IL 60642. 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 145.07. Info: (312) 974-3291.

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(+).

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(+).

Wheaton Community Radio Amateurs, (WCRA). P.O. Box QSL, Wheaton, IL 60189. Meets 7:30 p.m., 1st Fri./monthly, College of DuPage, Glen Ellyn, IL. Nets Sun. & Tue. 8 p.m., 145.39(+) MHz. 440 MHz net on Tues., 8:30 p.m. on 444.475(+) MHz. RTTY Net Sun. 9:30 p.m. 145.31(-).

York Radio Club. Meets 3rd Fri./monthly, 8 p.m., Elmhurst College (Science Bldg.) Elmhurst, IL. Net Mon., 8 p.m. W9PCS/147.42 simplex. Rptr. 442.875(+).

IOWA

Sooland Amateur Radio Assoc., (SARA). Meets 3rd Tues./monthly, 7:30 p.m., American Red Cross Bldg., 1512 Pierce St., Sioux City, IA. Contact: Glenn Holder, KØTFT. (712) 239-1749. Call-in 146.97(-)

MAINE

Androscoggin Amateur Radio Club. Meets 1st Wed./monthly, 7:00 p.m., Auburn Police Station, 1 Minot Ave., Auburn, ME.

MASSACHUSETTS

Quannapowitt Radio Assoc., Inc. 6 Savin St., Burlington, MA 01803. Meets 4th Fr./monthly, 8:00 p.m., (May & Nov. meets 3rd Fr.), at Lynnfield-Wakefield Methodist Church, Wakefield. Info: Jim Chamberlain, N1AKG, (617) 944-5098.

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

MICHIGAN

Adrian Amateur Radio Club, W8TQE. Box 26, Adrian, MI 49221. Meets 1st Fri./monthly, 8 p.m., Blue Flame Rm., Citizens Gas., N. Winter St. ARES net Sun., 9 p.m. 145.37(-). Info: Tom Parsons, N8QEW, (517) 263-5568.

Chelsea Amateur Radio Club, Inc. Meets 4th Tue./monthly, 7 p.m., Society Bank, 1478 Chelsea-Manchester Rd., Chelsea, MI 48118.

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.

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

Hazel Park Amateur Radio Club. Hoover Elementary School-Hazel Park, P.O. Box 368, Hazel Park, MI 48030. Meets 2nd Wed./monthly, 7:30 p.m. Sept. thru May. 146.64(-) Call-in. W8JXU Club Call. Net Sun., 9 p.m., 146.64(-).

Hiawatha Amateur Radio Club (HARA) Meets 1st Thurs./monthly, 7:30 p.m., at Trinity Lutheran Church in Ishpeming, MI (even no. mos.) and at Jacobetti Veterans Facility in Marquette, MI (odd no. mos.). Sun. net 7:30 p.m. on 146.76. Info: Richard, N8GBA, (906) 249-3837.

MISSISSIPPI

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

MISSOURI

Central Missouri Radio Assoc. P.O. Box 28954, Kansas City, MO 65202. Meets 2nd Tues./monthly, 7 p.m., Boone Electric Coop, 1413 Rangeline Rd., Columbia, MO. Talk-in 146.76(-).

Lebanon Amateur Radio Klub, Inc. P.O. Box 2034, Lebanon, MO 65536-2034. Meets 1st Mon./monthy, 7 p.m., Bell Restaurant, City Rt. 66 East Lebanon. Call in 146.700(-).

PHD Amateur Radio Assn., Inc. P.O. Box 28954, Kansas City, MO 64188. Meets last Tue./monthly, 7 p.m., Gladstone Comm. Bldg. (816) 781-7313, Volunteer Examiner Coordinator.

NEVADA

Frontier Amateur Radio Society, (FARS). Meets: 3rd Mon./monthly, 7 p.m., Cioppino's Restaurant (between Vegas Valley Dr. & Desert Inn), 3125 S. Nellis Blvd., Las Vegas, NV. Net Mon. 7:30 p.m., 145.39(-) Rptr. on Black Mountain. Club info: Jim Frye, NW70, (702) 456-5396.

Wide Area Data Group, Inc. P.O. Box 3132, Sparks, NV 89432. Meets 1st Sat./monthly, 9 a.m., Penny's Kountry Kitchen, 337 E. Plumb Ln., Reno. Info: (702) 356-8200. Call in on 147.30(+) MHz.

Sierra Intermountain Emergency Radio Assoc., (SIERA). Meets 2nd Tues./monthly, 7:30 p.m., Douglas County Lib., Minden. Contact: George Uebele, WW7E, (702) 265-4278, 147.330.

NEW HAMPSHIRE

Great Bay Radio Assn., WB1CAG. P.O. Box 911, Dover, NH 03820. (603) 755-2600/335-6643. Meets 2nd Sun./monthly, 7 p.m., Rochester Fire Dept. Training Rm. Talk-in: 147.57.

NEW JERSEY

10-70 Repeater Assn., Inc. 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(+).

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.

Cape May County Amateur Radio Club. Meets 3rd Thurs./monthly, 7:30 p.m., Human Resource Bldg., Rts. #9 & #47 in Rio Grande, NJ. Talk-in on 146.61(-). Weekly net, 8 p.m. every Thurs. except 3rd.

South Jersey Radio Assoc., (SJRA). Pennsauken Sr. Hi Sch. at Hylton Rd. & Remmington Ave., Pennsauken, NJ 08109. Meets Jan.-Oct., 4th Wed./monthly, 7:30 p.m. (Nov.-Dec. 3rd Wed.). Talk-in: 145.29(-) rptr. Club call K2AA.

NEW MEXICO

Albuquerque Amateur Radio Club. P.O. Box 11853, Albuquerque, NM 87192. Meets 1st Sat./monthly, 7:30 a.m., Golden Corral Restaurant, 8505 Montgomery NE.

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.

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.

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: Charlie, WA2JUJ, (516) 420-0046.

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.

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.

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

Suffolk County Radio Club, (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.

Westchester Amateur Radio Assoc., (WARA). Meets 1st Thurs./monthly, 7:30 p.m., Scarsdale Town Hall, Scarsdale, NY 10583. All invited. Info: Dan Grabel, N2FLR, Pres. (914) 723-8625.

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) 962-9666 for details. Talk-in WB2ZII/R 147.06(+) PL 114.8/2A.

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) 963-8995. 146.865(-), 440.15(+).

NORTH CAROLINA

Cabarrus Amateur Radio Society, (CARS). Meets 3rd Mon./monthly, 7 p.m., Forest Hills United Methodist Church in Concord, NC. Net on Mon., 9 p.m., 146.65(-).

Stanly County Amateur Radio Club. P.O. Box 188, Stanfield, N.C. 28163. Meets 4th Thurs./monthly, 7 p.m. at Stanly Community College, Albemarle, NC.

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(-).

Clyde Amateur Radio Society (CARS). Meets 2nd Tue./monthly, 7:30 p.m., Municipal Bldg., Clyde, OH 43410. NF8E rptr. 146.85(-) and 442.625(+) MHz. Net Sun. 9 p.m. Info: E. Remaley, KA8CAS.

Firelands Area Rptr. Assn., (FARA). Meets 4th Tue./monthly, 7 p.m., Ohio Veterans Home, Sandusky, OH. WB8LLY rptr. 146.805(-). Net Sundays, 8 p.m. Info: FARA, P.O. Box 442, Huron, OH 44839.

Greater Cincinnati Amateur Radio Assn., (GCARA). Meets 4th Wed./monthly, 7:45 p.m., Cincinnati Museum of Nat. History, 1720 Gilbert Ave. Amateur Radio Station W8DZ. Info: WA8STX or (513) 563-7373.

Lancaster & Fairfield County ARC. Meets 1st Thurs./monthly, 7:30 p.m., American Red Cross, 121 W. Mulberry St., Lancaster, OH 43130. Info net Mondays, 8 p.m., K8QIK/R 147.63(-) rptr.

Toledo Mobile Radio Association. P.O. Box 273, Toledo, OH 43697. Meets 2nd Wed./monthly, 7:30 p.m., Luke's Barn, Lucas County Rec. Ctr., 2901 Key St., Maumee, OH. Contact: Brian, WD8MXR, 385-5624.

Triple States Radio Amateur Club. Meets Wed./weekly on 28.48 at 8:30 p.m., 7260 at 9 p.m. and Sun. 4 p.m. on 7240. Rptrs. 146.91(-), 146.715(-). P.O. Box 2 40, Rd. #1, Adena, OH 43901. (614) 546-3930.

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

OREGON

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. Net Sun. 7:30 p.m. 147.06(+) MHz. Info: (503) 385-1156.

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.

Oregon Coast Emergency Rptr., Inc. P.O. Box 254, Florence, OR 97439. Meets 3rd Sat./monthly, 9 a.m. for brkfst. Net, Wed. 7 p.m., 146.80(-). Info: 997-2323 or 997-3081.

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.

PENNSYLVANIA

Butler County Amateur Radio Assn. P.O. Box 1787, Butler, PA 16001-1787. 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.

Fort Venango Mike & Key Club. Meets 2nd Tues./monthly, 7:30 p.m., Vo-Tech, Oil City, PA. 145.230, 145.190, 147.120, 444.125.

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.

Mid-Atlantic ARC. Box 352, Villanova, PA 19085. Meets 3rd Thurs./monthly, 8:00 p.m., Radnor Mem. Libraray, Wayne, PA. Call Bob Haase, W3SA, (610) 293-1919. 147.06(+) WB3JOE pt.bbs.

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

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: Dean, N1SXL, (401) 539-0775.

VIRGINIA

Southern Peninsula Amateur Radio Klub, (SPARK). Meets 1st & 3rd Tue., Salvation Army Community Bldg., Hampton, VA. Repeaters 146.73(-), 449.55(-). VE Exam Info: (804) 898-8031, W4RTZ.

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.

WASHINGTON

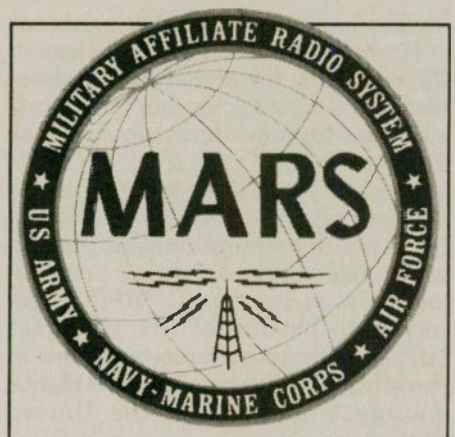
The Inland Northwest Hamfest Assoc. (Club). Meets 2nd Tues./monthly, 7 p.m., St. Ann Parish Hall, E. 2120 First Ave., Spokane, WA. Info: KJ7BB, (509) 534-8443.

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.

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 317, Cottageville, WV 25239.

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



Lorraine S. Matthew, N4ZCF
MARS call AAA9PR

July 4, 1776...July 4, 1995...two hundred nineteen years of democracy. This long standing record of freedom has been backed up all these years by our finest and best men and women wearing the uniforms of our Army, Air Force, Navy, Marine Corps, and Coast Guard.

With the advent and development of radio communications, the Army recognized the need to develop a pool of trained radio operators. This recognition led to the beginning of the MARS program called AARS (Army Amateur Radio System) in 1925. Following a brief interruption during the World War II years, Army MARS has carried a proud tradition of service in emergency support and in morale and welfare support to the military personnel and their loved ones ever since.

Because of the lead time needed by the publishers of ***Worldradio*** to produce their fine magazine, I am writing this column in the immediate aftermath of the Oklahoma City bombing and its tragic consequences. Watching the people on the scene, I am most impressed by the visible evidence of the true spirit of the American people who totally cast aside all their differences and pitched in to help in any way they could with selfless dedication to the tasks at hand. This is the true spirit of 1776...a spirit that is alive and well in Heartland America in 1995, indeed alive in all of America in 1995.

An interview with an emergency supervisor on the scene at Oklahoma City aired by CBS Radio underscored the viewpoint of Chief Army MARS, Robert Sutton, that HF and VHF voice and digital radio should and will remain the keystone of Army MARS communications. No matter how efficiently and how effectively message traffic can be moved electronically, we still have to be able to talk to each other. This was the story from Oklahoma City. The gentleman reported that the commercial digital computerized communications and the cellular telephones were so overtaxed by the situation that they had become unusable. He further stated that only radio communications were able to support the communications that were needed within agencies, between agencies, and able to meet all other communications needs as they arose.

This situation in which only radio could meet the needs of those caught in the throes of a disaster reflects the same needs that were evident in other disasters as well. Time and time again, it was radio that has been the key to successful communication and assistance to the disaster victims and their rescuers. Many of the agencies that Army MARS could support feel that radio is outdated. The proof that radio will always be needed came violently and suddenly at 9 a.m. on 19 April 1995 in Oklahoma City. Chief Sutton has taken criticism for his viewpoint...a viewpoint that has now been vindicated by experience.

Oklahoma Army MARS was activated and did carry on emergency communications procedures as needed. I have not seen any of their after-action reports since the action is still ongoing. They are there with trained operators who will answer the call in whatever manner they are needed. That is the crux of Army MARS' existence...to render emergency support with skill and with dedication.

For most of you who read this column, Field Day 1995 is coming up shortly. This is a fun experience as well as a most important one in terms of emergency communications. This purpose for Amateur Radio is what protects our frequencies from being sold. Please support Field Day. Go out and join your radio friends. Learn about field-type communications. You would be surprised at the contacts that can be made and the variety of configurations that can be set up in the middle of a field. Take a friend with you. If it is a radio friend, he or she can take part as well. If it is a non-radio friend, this is an opportunity to show that person what Amateur Radio is all about. For the MARS members, you, too, are Amateur Radio operators with an even more defined mission. Participate in Field Day 1995. Make it as successful as Armed Forces Day was in May.

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From Nevada, I received information from Mike Garrison, AAA9AW, about a joint AFMARS/Army MARS tour of Nellis Air Force Base. There were several factors which led to this most successful meeting. Nellis AFB is the major military facility to which MARS support is given in southern Nevada. There had been joint field support given by MARS and MARS members to downed aircraft recovery on the Nellis Range. This was an ideal opportunity for participating members from both MARS groups and the AF personnel with whom they had worked, to meet each other personally.

Mike wrote, "We learned about the Air Warrior operations which train Army and Air Force units to work smoothly together in ground combat. With exercises at Fort Irwin, California, the entire operations are controlled, monitored, and recorded by sophisticated computer equipment at Nellis which we were privileged to examine and watch in full operation. We saw many of the current anti-aircraft threats which pilots are trained to deal with in combat, and we were

able to see the museum and get to know members of the Air Force Thunder-birds, as well as to study one of their aircraft. Thanks to the efforts of the Nellis Installation MARS Director, J. K. Skilbred, AFA6JS, we had an opportunity to meet some of the Nellis communications personnel and see some of the equipment that we support directly in the MARS program."

In addition, briefings were held about the U.S. Government's National Communications Systems Shared Resources Program (SHARES) and the Department of Energy's deployable emergency response equipment (principally its communications equipment) which is housed at Nellis AFB.

Mike continues, "This tour was particularly useful, because, not only did it give us an opportunity to become more familiar with one of the key facilities we support and to see some wonderful equipment, but it also enabled us to meet face to face with people we normally just hear on the air, and to develop closer ties between the Army and Air Force MARS organizations."

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At this writing, the annual Army MARS In Progress Review (I.P.R.) meeting is still in the very near future. With a total reorganization as the major challenge, this series of meetings will be very, very full and crucial to the future of Army MARS. I will have full reports on these meetings and on the PA Army MARS Communications Conference which will follow.

Army MARS marches on proud, professional, and ready. **WR**

The Youth Forum

Sammy Garrett, AAØCR

#8 Willow Ct., Florissant, MO 63031

California 7-year-old earns ticket

The next time you hear a prospective amateur complain about how hard it is to earn his or her Amateur Radio license, just mention Jason Levine, KE6RPN. Though Jason is only seven years old he recently passed his Technician class exam. Jason lives in Beverly Hills, California.

This young man isn't the only amateur in his family. In fact, he is following in the footsteps of his father, mother, and grandfather. According to Jason, his father's involvement in Amateur Radio is what first caught KE6RPN's interest. As Jason progresses in the amateur service he hopes to be able to participate in the Shuttle Amateur Radio Experiment (SAREX) program and looks forward to ragchewing with his father, N6CUR, on-the-air.

Second-grader KE6RPN passed his Technician class exam after only three months of study. Once his license arrived, Jason wasted no time in sharing his new hobby with his classmates at Horace Mann Elementary School in Beverly Hills. Several of Jason's classmates and even his teacher are reportedly showing an interest in Amateur Radio as well.

In a few years this young radio enthusiast plans to become involved in his local disaster communications network. According to a recent press release, Jason Levine, KE6RPN, is believed to be one of the youngest licensed Amateur Radio operators in the state of California and the eighth youngest operator in the United States.

JOTA operation, a big success

Jamboree on the Air (JOTA) is the largest on-air gathering of Amateur Radio and Scouting enthusiasts in the world. This event is sponsored by Scouting organizations throughout the world and is designed to introduce all members of the Scouting movement (Boy and Girl Scouts) to Amateur Radio. Special efforts are made to ensure on-air contacts between Scout groups.

In response to my recent request for information about JOTA operations, I received a report from Jim Roach, KD6VWK of San Juan Capistrano, California. Jim helped stage a JOTA operation last October in Orange County, California.

Jim's first obstacle was to explain the JOTA program to members of the El Camino Real District of the Orange County Council (Boy Scouts of America) and to win approval for the operation, which was easily accomplished. KD6VWK, and fellow Scouter, David White, N6NLD publicized the operation and geared up for an exciting weekend. The operation was staged at the Military Affiliate Radio System (MARS) station, housed at the Marine Corps Air Station at El Toro, California.

Throughout the weekend, approximately 70 Cub Scouts, Webelos and Boy Scouts visited the operation. Several even brought friends and family members. According to KD6VWK, "Small groups were scheduled throughout the day by...David White, N6NLD who gave (visitors) a guided tour of the antenna farm and operating positions....I assisted scouts in making on-the-air contacts with hams and scouters throughout the U.S., Hawaii, Canada and Japan." At the end of the day, each scout was awarded a handsome certificate for his participation and provided with information about how to become an Amateur Radio Operator.

JOTA is held each year during the third weekend in October. Scouting organizations from several countries cooperate with national Amateur Radio organizations and clubs in order to make the event a continued success. JOTA is open to both Boy and Girl Scouts of all ages. In the United States, however, units affiliated with the Boy Scouts of America tend to participate more actively.

Unfortunately, in preparation for this column I was able to find no evidence of the U.S. Girl Scout organization actively encouraging its units to participate in this event. Any clarification or further information about Girl Scout involvement or sponsorship of JOTA would be most appreciated.

However, the Boy Scouts of America promotes JOTA each year through its national headquarters. Patches and pins are usually available to participants through that office. Further information concerning JOTA will appear in a future "Youth Forum." Other Amateur Radio publications, as well as *Boys Life* magazine will also feature timely information. Inquiries may also be addressed to local radio clubs and Scout councils, the American Radio Relay League, or the Boy Scouts of America at the following address: Boy Scouts of America, International Division, 1325 West Walnut Hill Lane, Irving, Texas, 75015-2079, Attention: Jamboree on the Air Information.

Missouri ham appointed

Congratulations to Kitty Merkle, KBØJZJ and Tom Merkle, NØPIX of St. Louis, Missouri! Kitty and Tom, both 18, recently obtained appointments to the United States Naval Academy at Annapolis, Maryland. The pair will join some of the most elite students in the country this summer as they begin their training to become officers in the U.S. Navy. Kitty hopes to pursue a major in electrical engineering, while Tom plans to study computer science.

Kitty's and Tom's similarities do not end with Amateur Radio, however. In fact, KBØJZJ and NØPIX are twins. Their appointments to Annapolis marks two distinct honors. In addition to being the first brother and sister to be admitted to the academy in the same year, they are the first twins to win appointments in the same year. The Merkles' father, George, NØGM, also spent four years serving in the U.S. Navy.

Stories, photos needed

As you can see from this month's issue of the "Youth Forum," young Amateur Radio operators are accomplishing outstanding feats every day. I, for one, would like nothing better than to publicize each of these remarkable endeavors—but I can't do this alone. Each month I am in need of story information, photos, etc. I'll be more than happy to mention the accomplishments of deserving young amateurs, but I can't track down every lead on my own. So, I need your help! Story ideas, press releases, photos, etc are always welcome and will be given careful consideration.

Please keep in mind that submissions do not necessarily have to be extraordinary. The "Youth Forum" is meant to feature the activites and insights of young amateurs everywhere. I'll gladly accept everything from a simple note highlighting your first contact, awards, local club activities, etc. to a press release concerning a national award or event.

If you would like to submit photos, please do so carefully. (Lately I've received some photographs which were fantastic. Unfortunately, they were not reproducible.) Keep in mind that "tight" shots are appreciated. "Head shots" of individuals are much easier to work with than full-length photos. Both black and white and color prints are acceptable. However, high quality color prints are also acceptable.

Materials may not necessarily be returned. If you must have something back, please specify this and be sure to include a self-addressed stamped envelope.

In short, be creative! I cannot promise that all submitted materials will be featured, but I'll do my best.

As always, thanks for reading and have a great summer! 73 and see you on the bands—AAØCR. WR

County Hunter

Ace Jansen, N3AHA

42857 Hollywood Park Place • Ashburn, VA 22011
e-mail or internet: sjansen@aol.com

Back in May...

I briefly discussed my desire to learn more about antennas and to discover if my faithful readers had success with any of the different multi-band antennas advertised in ***Worldradio***. I'm so glad I gave out my Internet e-mail address (see column head), because I received more responses from that one column than I've had in four years of writing this column. But first....

40 + 5 Years

Want to know everything there is to know about HF mobile antennas and installation? Then check out *40 + 5 Years of HF Mobileering*, by Don Johnson, W6AAQ; a compendium of HF mobileering "stuff" collected over the years by W6AAQ This soft-bound book was originally published in 1988 and called *40 Years of Mobileering*. The version I reviewed was published in 1993, hence the name *40 + 5 Years . . .*, and includes additional information and edited information from the original compilation.

Don Johnson, was one of the pioneers of HF Mobileering, operating from the first day amateurs were permitted to operate mobile on 3.8, 7.0, and 14.0 MHz on the 15th of July, 1948. The San Francisco Bay Area pioneers called themselves the 3995 Mobileers and most started by using a large Current Loop antenna for 75 Meters. This antenna was constructed using surplus military whips to create 28 feet of antenna, which looped over the top of the vehicle from bumper to bumper.

A ton of antenna development occurred from the 'good old days' until now, and Don covers this HF mobile antenna evolution and lessons learned since 1948. The book truly is an easy-to-read planning notebook, and includes plenty of hard-earned tips for RF mobileering. Don gives several suggestions which he repeats throughout the book, sort of drilling it repeatedly into his readers' brains (most likely using a unibit...you'll find out!). Here's a small sampling of those tips:

1) ALWAYS use the grounding post on the back of the rig and ground the rig to the vehicle. His comments are for those who don't; are "dumb dumb and other words!" Guess who's never done that in 15 years...duh?

2) When installing coax, do not use RG-58/U, RG8/U, or RG8X, instead use RG-8X or RG213. Oops, gotta fix that too!

3) Purchase an MFJ-249 SWR Analyzer - it's the best tool an HF mobileer could own,

4) Do not use a spring mount - it's the most likely cause of intermittent receiver noise, and

5) Do not think, even for a minute, that a built-in antenna tuner is resonating your HF mobile antenna.

Don recommends every HF mobileer (actually every ham) read or purchase (and read) a copy of M. Walter Maxwell's book, *Reflections*. He also recommends HF Mobileers add to their bookshelves a copy of the *ARRL Handbook*, *ARRL Antenna Book*, and *ARRL Antenna Compendium*, Volumes I, II, and III. Don's book, *40+5 Years*, also includes reprints of a few past articles on the subject; Mobile Antenna Matching - Automatically! by Don Johnson, W6AAQ, in the Oct, 1982 issue of *QST*; Build a Weird 2 Band Mobile Antenna, by Don Johnson, W6AAQ, in the Oct, 1976 issue of *73*; and Tennamatic: An Auto-Tuning Mobile Antenna System by Bruce Brown, W6TWW, in the July, 1979 issue of *73*.

The book builds to a climax as Don discloses the full design of the Big DK3 (Don's initials) - a continuous coverage antenna from 3.5 to 30 MHz which requires no tuning, repeat, no tuning (once the base coupling unit is installed). The book includes 14 pages of antenna design for the Big DK3, but, if you send Don $5, he'll send you an even more up-to-date design, dated 15 April 1995 (Don Johnson, Box 595, Esparto, CA 95627-0595). Don filed a patent disclosure 18 Mar, 91 and various groups have manufactured the antenna for sale. Only 17 have written Don of their intentions, all of whom he wished good luck. A few commercial companies running ads in the ham magazines are building antennas based on the Big DK3 design, but use dissimilar materials to differentiate themselves. Don reported to me that as of the end of 94, he had 3100 DK3 users in his database.

After reading Don's experiences and learning what he thinks of the antenna system I use (dummy loads on a stick), I became sold on the Big DK3 design. My only reluctance to jump to this type of antenna is a lack of desire to build my own antenna (even though it's inexpensive and I have the design) and a lack of desire to shell out $300 to a commercial company selling a DK3-like antenna. Don does have a note in his handout that says, "For those who cannot conveniently construct their own unit, we can arrange to ship one with an aluminum base section with the toroid coupling unit for $150 US. The antenna is shipped minus the top whip." I'm getting very close to purchasing Don's antenna directly from him. If you want to purchase a commercial version of Don's DK3, he recommends H. Stewart Designs, PO Box 643, Oregon City, OR 97045.

If you're a serious HF mobileer or considering HF mobiling even once in the future, I strongly recommend you purchase this book and heed Don's advice on installing HF mobile equipment and antennas. To order, see inside cover of this issue of ***Worldradio***.

Texas Bugcatcher

One reader of the May column was Bart Bartlett, N7LWX, who is absolutely sold on the Texas Bugcatcher from GLA Systems. He ruled out a DK3-like antenna (even GLA's Texas Twister). Bart's reason is simple - he wants to run a linear and none of the DK3-like antenna systems —neither Don's DK3 nor commercial look-alikes can handle more than 300 watts. I've read several favorable comments about the Texas Bugcatcher; it's one of the best multi-band antennas available; however, you do have to get out of the car to change bands. According to GLA's Henry Allen, "The Texas Twister (DK3 design) is probably 2-3 dB below the Texas Bug Catcher. The Bugcatcher is also structurally stronger and more trouble free." GLA's Bugcatcher flyer includes a quote from Don Johnson (inventor of the DK3), "I have said there are really not any antennas on the market that you cannot improve on by building your own. However, by mid-1989 I had to qualify that statement after seeing WB5TYD's Texas BugCatcher. It's really an outstanding antenna." The Texas Bugcatcher ranges in price depending on installation and desired bands; plan on between $150-300. Call GLA Systems for a complete brochure, 1-903-527-4163 for information or 1-800-588-2841 to order.

Dorothy H. Johnson, WB9RCY

I am very sad to pass on the news of Dorothy Johnson, WB9RCY, becoming a silent key. She was the *CQ Magazine* USA-CA award custodian and Awards columnist for many years and

just gave up the responsibility in the past couple years. She will surely be missed by all County Hunters.

Free Chili and NM counties

You've heard the saying, "There's no such thing as a free lunch," right? Well now there is almost! All you have to do is join the Great New Mexico Chili Chase from 1800 UTC, Saturday, August 12, 1995 to 1800 UTC, Sunday, August 13, 1995. The top three entrants from out of state receive free chili from Hatch, NM. For more information, turn to the Contest column on page 59. Thanks to Russ, WA5Y, for sending me this via the Internet. If you need NM counties, Russ plans to operate mobile from at least 25 of the 32 counties.

40 Meter CHing

If you'd like to chase counties on the county hunter net on 20 Meters, but only have a 40 Meter antenna, you are in luck. The 40 Meter county hunters net, 7.238 MHz, has been very busy lately. Since 20 Meter propagation is the pits, several mobiles are traveling with 40 Meter antennas mounted. In fact, for an east coast guy, like me, I make more contacts on the 40 Meter net than I do on 20 Meters. Note: sometimes in the morning and evening, the frequency is 7.243 MHz.

1995 MARAC Convention

This years' MARAC (Mobile Amateur Radio Awards Club) convention is scheduled for 5-9 July in Hamburg, New York. There will be six workshops — two each day from July 6-8, covering various topics; mobile antennas, mobile rigs, mobile operating for people on the road, paper chasing, net control, and operating on the CW and SSB county hunting nets. The registration fee is $20 and includes a badge, prizes, a photo, and a registration packet and other features to be announced. The highlight of the convention is the annual MARAC awards banquet Friday night hosted by Paul, AA2AV, and Pete, K4QFK. The banquet ($22 per person) is where MARAC recognizes the mobile operator of the year, net control of the year, and county hunter of the year. Since you'll be getting this close to convention time, call Paul, AA2V, for more information at 908/548-2266, or just join us at the Holiday Inn in Hamburg, New York from 5-8 July.

County Hunting in Virginia

While working on this article, I turned on 2 Meters and scanned repeater memories and found Mark, WB9OOG, and Don, K3IMC, discussing how many counties they had left to work. The other day when driving to work, I ran across Packy, AE3O, Jim, K4CGY, and Bill, N3KKM, discussing counties. I also found CW Op Andy, W3XE, on still another repeater. I'm starting to feel right at home here in Virginia with lots of fellow county hunters in the area. If you're not county hunting yet, I hope you join us soon.

Internet

I received some nice e-mail from Paul, WA6OKQ; Rick, WO8L; Norm, N3KLR; and Jean, N6LGE. I'll answer your questions soon, via Internet, and here for general consumption. I also saw a note on the Internet's DX Reflector that Bert, DF2PI, is looking for some IBM software for logging and tracking USA counties...small world, eh? For the rest of you silent readers, please use my e-mail address or snail mail address if you would like to pass on county hunter news or would like me to cover something of counter hunter interest in an upcoming column. Keep those cards and e-mail coming...

Until September, happy hunting! See you on 14.336, 14.056 MHz, and 7.238 MHz. 73, Ace, N3 aha! WR

Search And Rescue Communications

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

Operating procedures

Correlation is a term used in describing and comparing two events or situations. If a one-amp battery will power my radio for two hours, a two-amp battery will last four hours. There is a relationship between the two batteries, or a correlation.

This is important to the emergency services community because many events are related. For example, effective training is usually related to improved performance. A prepared responder is often quicker to arrive on-scene, demonstrating a correlation between preparedness levels and arrival times.

I was watching some of a televised trial and surprised by the intense questioning of a police criminalist. (The criminalist is one of those support people used in a police investigation of a crime scene.) What amazed me were the questions concerning each minute detail of each procedure. "Were items initialed?" "Are you familiar with this procedure?" "Did you do it using approved standards?" "Did you follow specific procedures?"

The correlation here is the legal proceedings and the focus on standard procedures. Are we moving toward situations where everything must be done using an approved checklist? My worry is that we're moving away from the value of experience and ability to react to unique situations, toward a scenario where every action is dictated by a checklist of approved procedures.

I agree that there are accepted general practices for many activities (such as radio communication) but contend that efficiency must rely on the ability to react based on the situation. Can you imagine a 911 operator telling a caller: "This emergency is not in our policy manual, please hold while we determine some procedures."

It's a good idea for communications groups to formulate guidelines and recommended operating procedures — but we should shy away from super-specific job descriptions that limit the ability to make decisions in response to what is happening. We can play a lot of "what if" games and improve our decision making response time but clearly two people will never agree 100 percent on every exact course of action.

The best training, I believe, gives people experience in looking at situations and making decisions. If a "student" always has to refer to an accepted checklist of actions, the "student" could be replaced by that checklist! This works if every situation were identical. In two decades I have worked missions with similar situations, but none required identical responses.

I hope my correlation between a criminal trial and expectations of a criminalist does not mirror emergency responses and communicator actions. Allowing people to gain experience and make decisions (within operational guidelines) often is the difference in a life saved or lost. I know of missions where quick, in the field, decisions saved lives. These decisions involved experience, analysis, common sense and immediacy — they could not have been forecast in advance and an appropriate checklist developed.

Quick response

Amateur Radio publications and other communications-related magazines have, over the past year, displayed various mobile communications centers or mobile command posts. I have, in past issues, pointed out the advantages of a trailer or communications van that is ready to roll when the emergency call comes.

Many groups (or individuals) do not have the funds or time to equip or support these types of resources and might want to start with something smaller than a motor home.

The April 1995 issue of *QST* contained a great article on how to build a "Camper's Portable Hamshack." Built in a small wooden box, this project has all the makings of an emergency response communications center!

This project is similar to a Boy Scout camp kitchen where all the cooking stuff is loaded into a carryable "box" and then set up at camp. Our Scout kitchens have legs that quickly bolt onto the sides and provide a sturdy platform for preparing meals.

A radio "kitchen" might be just the thing for many emergency responses — and you have two sources for plans if you are woodworking challenged such as I am. The *QST* article contains a diagram of how to nail the thing together and all the dimensions for cutting the wood. There is also a picture of the finished project and some ideas on how to hook up power leads and position equipment.

You should also be able to find a local Scout troop and most will have or know of camp kitchen plans. One good resource is to attend your local Scout council's Scout-A-Rama where troops display all sorts of projects. I've yet to see a Scout-A-Rama where at least one or two troops didn't have

plans to build a camp kitchen.

Another source of a "box" are military surplus outlets. Some local Amateur Radio operators were showing off some pretty nifty containers they had obtained at Hill Air Force Base for under $20. These were large hinged aluminum boxes with latches and handles. With a little mechanical skill, you could fix some mounting plates and fix up a "portable" operating station that could be set on a table and plugged in.

Every Scout aspiring to attain the Eagle award must complete a public service project. A local Scout painted an ARES repeater building and another is building a camp kitchen for another youth group. You might consider contacting a local Boy Scout troop and see if they are in need of an Eagle project. You could work with the Scout and be the beneficiary of a pretty neat portable communications box.

What's inside?

Once you have the basic box you can equip it with this suggestion: Keep it simple! The purpose of this radio "box" is to get you on the air and provide initial support to a field site. You're probably not going to need a lot of sophisticated gear. Some recommendations include looking around for good quality used radios without a lot of "features."

You might consider a VHF and a UHF radio, a gel battery, a clipboard, coax and some collapsible J-pole antennas. If the radios were simple to use, a wider range of operators can be assigned to use the station.

Make sure every connection is "idiot-proofed" — that means everything is labelled, neatly soldered and connected. You should have no loose wires and all the gear should be bolted down to prevent shifting around while you move the box. The idea is to open the cover, hook up the antenna, flip on the power switch and check into the active net. This "box" is probably not going to be your net control station, but your initial support station. It might only be used until additional gear can be brought in or until other specialty modes (such as packet) are set up.

Resist the urge, no matter how strong or how well argued, to fill the "box" with extra tools, spare parts, fancy switches and other goodies. Keep it simple, keep it lightweight, and keep it ready. "Simple" is easy to keep ready and in working order. This is the portable station two of you could carry three or four blocks to the disaster site or up the mountain trail to the staging area.

(You might even consider one of those collapsible luggage carts and roll your "box" to the emergency site.)

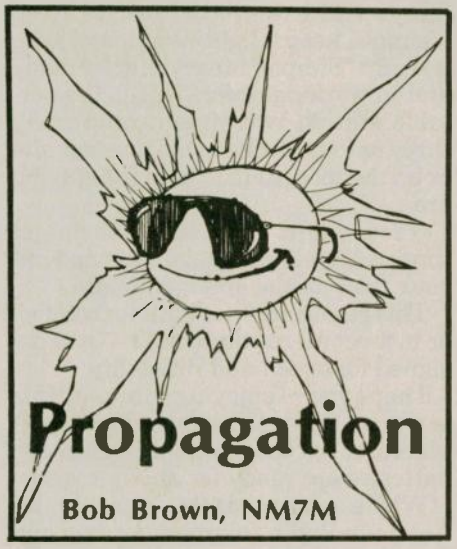
This resource is not built for comfort or to meet all contingencies — it is designed for speed and reliability.

I hope you're enjoying summer! This is a good time to get that old coax replaced, check the tower and ensure the batteries are ready for another year.

While you're at it, take in an Amateur Radio "hamfest" or two and don't forget your group's annual picnic. It's important to kick back once in a while, play catch with the kids and burn some burgers. If your group doesn't have a summer picnic, DO IT! Building social connections is important to group health.

Have a great summer! See you next month. Best wishes from Salt Lake City. WR

☺ *Send us a brief writeup of your Field Day adventures!* ☺



At this point, Cycle 22 is winding down and we're all waiting and watching for signs of the start of Cycle 23. I've been through this before and I'm sure you have too. But the last time, I think I had my wits about me and kept a good record of what happened, so let me share it with you.

Before doing that, however, let's just stake out what we know about Cycle 22. For starters, it came out of the minimum of Cycle 21 back in September '86 when the smoothed sunspot number (SSN) was 12.3. And it peaked out with a SSN of 158.5 in July '89, the rise to solar maximum taking only 34 months. Looking at the summary of solar cycles put out by NOAA/SESC (National Oceanic and Atmospheric Administration/Space Environment Services Center) note back in February '90, that was the fastest rise to solar maximum since Cycle 1 starting in 1755, ahead of Cycle 3 which peaked in May 1778 after 35 months.

At the present time, NOAA/SESC is forecasting the solar minimum of Cycle 22 with a SSN of 6 in early 1996 and with a definite increase in solar activity a year later. While current forecasts of the next solar maximum are highly tentative, they suggest an average cycle with a SSN of 108 at solar maximum early in year 2000.

That's all well and good but you want more than just forecasts and speculation. I won't say you're shouting "I want it all, NOW!" but you certainly would like to keep tabs on what's going on as this latest cosmic drama unfolds. Moreover, you want it in terms you can easily understand, not something that is inaccessible or incomprehensible to you. That being the case, let me tell you about how it was back in the late days of Cycle 21 and the early days of Cycle 22. I think you'll find it interesting and even valuable to you in the days ahead.

My own records of solar and magnetic activity go back to the summer of '82 when I retired and are continuous to the present time. They include the daily values of the 10.7 cm solar flux, the A-index for magnetic activity recorded at Boulder, CO and the 1-8 Angstrom background X-ray flux from the GOES satellite.

The 10.7 cm solar flux and the Boulder A-index for magnetic activity are available to everyone; all you have to do is listen to WWV at 18 minutes after each hour. The background X-ray flux is in the weekly *Boulder Report* and would be available only to those who've asked to be put on the NOAA/SESC mailing list. For purposes of discussion here, I'll limit myself first to just what came over WWV.

Using September '86 as the date of the solar minimum between Cycle 21 and 22, let's look back at how Cycle 21 petered out and then how Cycle 22 got started. I'll do that in terms of the values of the 10.7 cm flux, a coarse indicator of the presence of active regions on the solar disk facing us as the sun rotates on its axis. And it should be noted that I'm emphasizing daily values; I have to think they tell you more about what you're interested in here than smoothed values which are averaged over 13 months.

When my records of the solar flux values started back in mid-1982, it was reaching peak values of 250 solar flux units (sfu) on a daily basis and showed rather irregular variations into the 200s as well as recurrent variations with a 27-day period. That sort of behavior kept going for almost two years but with decreasing amplitude until about September '84 when the 10.7 cm flux variations became "calmer," for want of a better word. From then on, it "burbled along" at values around 75 sfu but did show two "spikes," almost reaching 100 sfu, which were associated with solar proton events from sporadic active regions in January and April of '85.

Of course, in that time there were five occasions when the Boulder A-Index of magnetic activity exceeded 50, the lower limit for magnetic storm conditions. From April '85 on, the 10.7 cm flux came out of the "doldrums" and started showing recurrent peaks up to about 125 sfu, seven (7) in the remaining months of '85, and five (5) in the first half of '86. The last gasp of magnetic activity in Cycle 21 was in February of '86 when the A-Index reached 130 in connection with the solar proton event in the first week of that month.

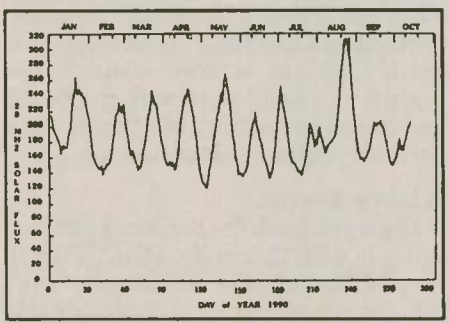


Figure 1.

After that event, there was a noticable decline when it came to magnetic activity and the 10.7 cm flux was essentially flat until October '86 when there was a broad peak lasting about two weeks and reaching 100 sfu. From then on, it was "dead calm" until the first week of April '87 and then the solar flux "took off," showing the presence of numerous active regions and the flux climbing in an irregular fashion to reach 150 sfu within a year. After that, the rest is history, shown dramatically to us by the 10.7 cm flux peaks as "hot regions" rotated past our view time and again. In that regard, one of the more pronounced sequences of flux peaks was in 1990, as shown in Figure 1.

At this point, I think I'd have to say that recording the daily values of the 10.7 cm solar flux is the way to go, keeping track of it by religiously monitoring WWV or using the weekly listing in the *Boulder Report*. When it comes to displaying the flux values, I find that a special K&E graph paper (1 year by days and 150 divisions, K&E 47 2810) is quite handy but just about any millimeter graph paper will do. As a matter of convenience, I use the same linear scale (100 divisions=100 sfu or

an A-Index=100) for both the flux and magnetic activity; that way, one can keep tabs on both without any overlap in records as time progresses toward the birth of Cycle 23.

With daily recording of the solar flux, I won't say that you can make any official declaration as to when Cycle 22 has bottomed out and Cycle 23 has started, but the appearance of recurrent increases in solar flux after a period of "calm" will tell you that active regions are appearing regularly and point toward a new burst of DXing. Then when the 10.7 cm flux starts its steady climb, month after month as it did after April '87, you won't need anyone to tell you that Cycle 23 is underway. In fact, you'll probably nod in agreement when the official declaration finally comes out, many months after the fact.

But be warned; the 10.7 cm flux is not ionizing radiation and it serves only an "indicator" of current solar activity coming through the "atmospheric window," not a real measure of the ultra-violet flux absorbed on high that goes to increase the electron density in the ionosphere. So you shouldn't expect any close agreement between changes in 10.7 cm flux values and improvement in DXing as the relationship with the ionosphere is a loose, statistical one rather than something close and direct, say one-to-one.

A better way of noting what's happening to the ionosphere is found by following the 1-8 Angstrom background X-ray flux found in the weekly *Boulder Report* or the Solar Report on the NOAA/SESC BBS. Those values are given first by letters (A, B, C, M, X) which designate the order of magnitude of the peak value of the X-ray flux and then by numbers which are multiplicative factors. For example, a C3.2 value indicates a daily background value of 3.2xE-6 watts per square cm for the 1-8 Angstrom X-ray flux.

In that regard, the A, B, and C values are generally associated with background values while the M and X values are found in reports of X-ray bursts. But NOAA/SESC reminds users that the X-ray detector is not well calibrated for background X-ray values below B1.0 and the X-ray detector saturates for bursts over X20, as found before the March '89 magnetic storm.

As noted earlier, the 10.7 cm solar flux "took off" after the first week of April '87. The same is true of the 1-8 Angstrom X-ray, the daily background rapidly rising above "A-values" and moving into values better than B1.0 by early June '87. After that, the X-ray flux showed variations with the rotation of active regions but was rather "spiky," day by day. That is rather different from the 10.7 cm flux which tends to be rather smooth in character. In any event, by mid- 1989, it had steadily risen to the point that the enhanced background was at the C1.0 level, with slow changes and X-ray spikes rising above it. The highest level for the daily background X-ray flux at solar maximum was C8.0 and an X20 burst was noted during the March '89 solar proton event.

Special announcement

There has been a change at NOAA, the old telephone BBS closing and a new arrangement made which can be reached using e-mail. Thus, one can now subscribe to the NOAA forecast of solar activity by simply sending an e-mail message with the words *subscribe forecast* in the body of the text to: majordomo@sel.noaa.gov

NOAA will respond quickly and give you a summary of "The report and Forecast of Solar and Geophysical Activity" that will come via e-mail on a daily basis. If, at any time, you want to stop receiving the forecast, the message from NOAA indicates the proper message to send them so as to "unsubscribe."

For those who wish to continue contacting the NOAA/SESC PBBS by telephone, the new number is (303) 497-7788 and the login is: gopher

I think that pretty well summarizes what to watch for in the time ahead. It has all the aspects of watching grass grow, paint drying or concrete setting but the results are certainly a lot more interesting. If you're a DXer, a contester or both, remember that those struggles are waged up there in the ionosphere and the more you know about it, the better you'll do. So get some graph paper and start a running plot of the 10.7 cm solar flux and the A-index; it's the way to go! WR

Troubleshooting

- Identical units tested under identical conditions will not be identical in the field.
- A dropped tool will land where it can do the most damage. (This is also known as "The Law of Selective Gravity").
- The probability of failure of a component, assembly, or subsystem is inversely proportional to its ease of repair or replacement.
- If a circuit cannot fail, it will.
- A fail-safe circuit will destroy others.
- A transistor protected by a fast-acting fuse will protect the fuse by blowing first. — SEMARA'S *Zerobeat*

Richard Fisher, KI6SN

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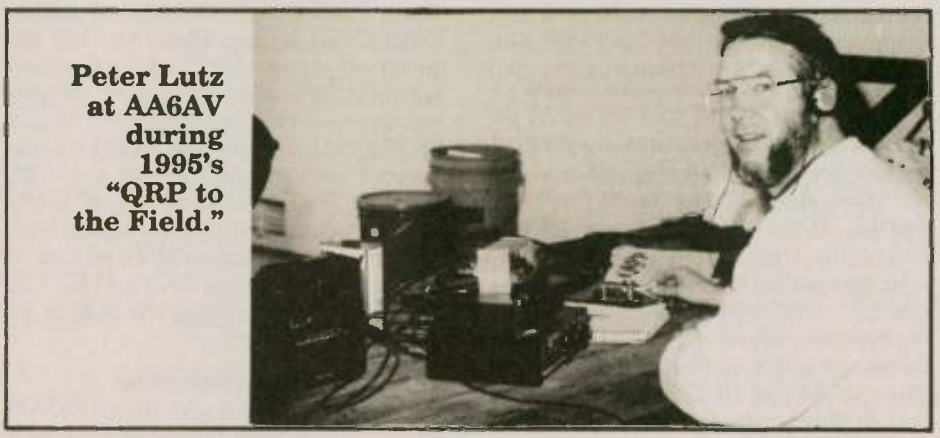


Peter Lutz at AA6AV during 1995's "QRP to the Field."

Introducing 'The Cascade'

A dual-band QRP SSB transceiver kit, unveiled in a world premiere at the QRP ARCI Hospitality Suite during this year's Dayton Hamvention™, is the latest addition to a line of highly prized club projects from the Northern California (NorCal) QRP Club. This 75/20 Meter phone-only rig, called the Cascade, was designed by John Liebenrood, K7RO. The project germinated from seeds planted in a conversation he had with NorCal's Doug Hendricks, KI6DS, while on a motor trip to Vancouver, British Columbia, Canada in November 1994.

Unfortunately, orders have already been accepted from NorCal members for the Cascade's entire first run. Other runs, however, very likely will follow. So stay tuned.

The Cascade comes in an enclosure like the club's Sierra transceiver (reviewed here in February 1995) and will run 8 watts PEP on 75 Meters and 5 watts PEP on 20 Meters, according to club specifications. Its receiver is a superhet with AGC and more than 1 watt of audio output. There are gain controls for AF and RF.

The Cascade covers a whopping 200 kHz per band, has speech compression and requires a handie-talkie-style microphone. Simple modifications to the rig's circuit will make it operable on 40 and 17 Meters, and also give CW capability in addition to phone, the club says. NorCal project manuals have a reputation for being first class, and the Cascade's comprehensively covers construction in a "complete-a-section/test-a-section" style, Hendricks says.

The first run of the kit sold for $159.95, plus shipping, and is complete, including the PC boards, all parts, connectors, knobs and hardware. All the builder need supply is the microphone, solder and some quality time at the workbench. If you'd like more information about the Cascade, write: Jim Cates, WA6GER, 3241 Eastwood Rd., Sacramento, CA 95821. The NorCal QRP Club has a rich history of quality QRP projects. QRPers around the country and the world swarmed to the club's first three homebrew transceiver kits. The club's debut project — the NorCal 40 single band 40 Meter superhet transceiver was introduced in late 1993. NorCal followed it with the Sierra all-band transceiver kit late last year. It then produced an improved and updated version of its original project, calling it the NorCal 40A. Don't despair if you're not in the Cascade's inaugural production run. Just QRX. As we've learned in the past, quality QRP radio kits have a way of finding new life on their own. Read on....

Enter: Wilderness Radio

A new company is commercially producing the NorCal 40A transceiver kit that has made headlines in the QRP world during the last couple of years. Bob Dyer, KD6VIO, has formed Wilderness Radio based in Los Altos, California and is now producing the NorCal 40A single band CW superhet QRP transceiver. The kit is priced $129, plus $5 shipping and handling for U.S. delivery; $10 for DX. Orders from within California must include state sales tax.

Wilderness expects to be producing kits for the multi-band Sierra CW transceiver in the fall. Dyer said other kits will be announced in the coming months, including projects that focus on QRP station accessories. "I really think the world needs an easy-to-use, easy-to-build (antenna) tuner, in a NorCal 40 (style) enclosure," he said. NorCal's new Cascade SSB transceiver will likely be considered for the company's production, as well, Dyer said. For more information write: Wilderness Radio, P.O. Box 734, Los Altos, CA 94023-0734.

Handbooks still available

Michael Bryce, WB8VGE, says that copies of the recently reprinted *HW-8 Handbook* are still available for anyone wanting to make modifications to the popular series of Heathkit QRP transceivers. The handbook is available to North American radio amateurs (including VE) for $11, which also covers first class postage. For DX other than VE, it's $15, which covers air mail shipping. To order, send a check or money order to: Michael Bryce, WB8VGE, 2225 Mayflower NW, Massillon, OH, 44647. While there have been no new modifications added to the original text,

Send your stories and photos to ***Worldradio*** today!

corrections have been made to errors that appeared in to the early edition.

Reflections from 'The Field'

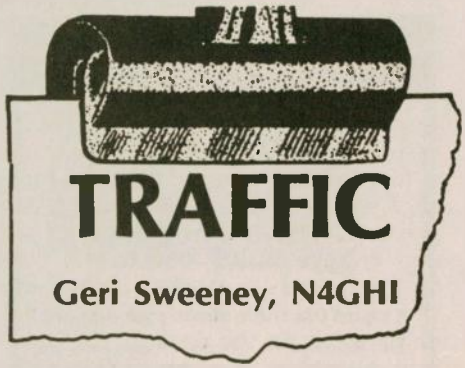
"QRP to the Field" was touted by its organizers as a good tune-up contest for last month's Field Day '95, and Peter Lutz, AA6AV, seized the moment April 1, for some low-power adventure. Using the New England QRP Club's NE 40-40 QRP transceiver kit he had recently completed, Peter took to the airwaves. Was it worth the effort? "Well, it was as much fun as I thought it would be," Peter writes from Napa, California. "A bad cold the week before, and marginal weather forecasts led me to reconsider setting up in the park at the end of the street. Instead, after rereading the rules carefully, I decided I could set up in my back yard if I put up another antenna.

"I figured out how to put it up amidst all the other pieces of wire on this small lot. Now, a few connectors and a piece of coax from Radio Shack and it should go together in a flash. Well, a flash is three hours, but the antenna worked, right off. The SWR was about 5 to 1 and I didn't have all day to tune it, so I hooked up the antenna tuner and managed to tune it down to about 1.2 to 1. Good enough."

Peter had received the NE 40-40 kit from Santa Claus, and "after using the rig for a couple of months, I got to thinking about Field Day this year and some of the possibilities. "I have operated from high in the Sierras a few times, but always next to the car because even with my ICOM 730 set for 5 watts, it drew several amps on transmit with this rig. I might be able to try a backpack Field Day. Then I heard about ('QRP to the Field'). A perfect practice." Peter wrote that at first, the park down the street seemed like just the right location. "Let's see, we need a radio, an antenna, a keyer and paddle, probably an antenna tuner, and my QRP wattmeter that I made for 2 Meters should work just fine. I could get all that in my backpack and carry it into the park a half a mile or so. Well, with marginal weather and poor health, that didn't look like such a good idea — so try the back yard. Three hours to put up a half sloper antenna and then see what happens...Signals were not very strong, but those out there seemed to realize that this was contest time, and everyone seemed to be cooperating well.

"I made four contacts the first hour. Not blazing speed, but for my first non-Field Day contest I couldn't complain. Things didn't speed up any until about (2300 UTC). Then the last hour was really fun. All told, 29 QSOs ranging from 30 seconds to about 30 minutes in length. Just the kind of contest I would design if I were doing it — not too intense.

"Many hams were glad to spend a few minutes on more than just the minimum contest exchange The antenna? Well, it didn't really work very well, but it's still up and as long as it doesn't rain I can run the coax in the window and do some comparisons. Someday, someone will design a small, low, cheap antenna that really works." WR



TRAFFIC

Geri Sweeney, N4GHI

Upcoming traffic

Some special event stations that we can expect to hear soon:

August

- CNE (Canadian National Exposition), Toronto ON
- Ohio Heritage Festival (K8BAS)

Newsletters

Thanks to all the editors who send me their newsletter. They are most helpful to glean traffic trends in different areas and pass on useful information to you. I receive newsletters from clubs, regions, and independent nets such as the Hit and Bounce. This allows me to expand my view of what's happening in the sphere of traffic to give you more of a global picture.

Newsletters are an excellent source of information transfer. If your club has a newsletter, be sure it includes traffic information: where a traffic net meets, tips on how to handle traffic, how to use the local PBBS for traffic, a phone number to call for further information on traffic handling, etc.

Net managers, especially at the Region and Area levels, who do not produce one are missing out on an excellent way to train members, keep up enthusiasm, and being prepared for such things as emergency routing, etc. Information on what Area Digital Coordinators are doing could be disseminated for comment and implementation. The more traffic handlers who are aware of what's happening, the better they can handle traffic. Congratulations to all those taking the long hours and expense to produce a newsletter.

Traffic goals

February's *Section Leader* (published by ARRL for appointees, such as ORS, OES, net managers, etc.) gave field goals for 1995. The following items were listed for Section Traffic Managers and Section Managers to accomplish in 1995.

1) "Each Section or Local NTS net should sponsor a message fair at a public place or event once or more a year."

I assume that's both to get hams interested in traffic handling and pick up some traffic. We've tried that here in Virginia at hamfests. Results haven't been rewarding. Folks seem more interested in checking out the bargains. A table at a public event should gain some traffic. A letter introducing traffic (where and how) to all new Amateur Radio operators, from either ARRL and/or the SM/STM should capture the interest of new amateurs. Has anyone tried that?

2) "ORS (Official Relay Stations) should be encouraged (or even required) to originate a minimum of 10 messages per month to retain the appointment."

Ten a month might be too many. And, why pick on an ORS? To be an ORS, monthly traffic reports are being sent to the STM, or SM, evidencing their interest in traffic handling. Many stations handle traffic without reporting and becoming an ORS. Why not encourage (not require) all traffic handlers to send a couple of messages a month?

3) "Each traffic handler in the section should be encouraged to bring at least one message to each net session. Checking in QRU is to be frowned upon."

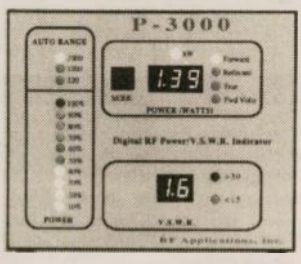
I'm not sure what nets the originator of this idea operates on, but here in Virginia we get lots of check-ins on many of our nets. A local and/or section level net only has one liaison station to take the traffic on to the Section and/or Region level net. Section nets feed into Region nets, which feed into Area nets.

Let's look at an example of everyone who checks in bringing one message. VA, NC, SC, GA, FL, and PR (Puerto Rico) make up the evening 4RN. Suppose each of the 25 (an average number) stations who check into the preceding two Virginia Section nets brings one message. The other 5 Sections also will have their one message per, plus all the normal traffic which is generally there. One can easily see that we could overload nets instead of making them more productive and enjoyable. We do need to encourage traffic, but a mandate that each traffic handler bring one to each net isn't the answer. Each net is a different situation. While one may always have traffic, another may never have traffic. Thus, each net manager should evaluate what's happening and make their own refinements.

We need folks to check in as outlets to be available to deliver traffic, as much as to bring traffic. Stations should never feel a frown for showing up without traffic; rather, all amateurs should be encouraged to join.

4. "Section Traffic Managers should install Local NTS nets on repeaters to gain access to new Technicians."

A fine idea, but how do I (STM of Virginia) do that? A vision comes to mind of "Geri Apple Seed," wandering



through the hills of Virginia installing nets. It would be preferable to include STM's in the planning of such a goal. Why not survey (traffic forum) the 69 STM's and ask them for their thoughts on such matters? Why not, at least, furnish them with a plan on how one can work toward goals which have been dictated?

5. "PBBS bulletins should be incorporated on NTS-cooperative boards to prompt/teach users on how to originate/send a message in radiogram format."

Who does that one? Don't a lot of PBBSs already do it? Perhaps because an 'announcement' was made several years ago, that STMs are in charge of PBBSs in one's Section, Field Services thinks it's true. In fact, not one PBBS sends me a monthly activity report, and I really have no idea what they do, nor can I enforce any announcements made by Field Services.

6. "Basic educational/motivational articles should appear more regularly in *QST* and other League publications."

7. " The traffic handling community should be encouraged to take advantage of the NTS awards program (PSHR, BPL, etc.)."

STMs and SEC (Section Emergency Coordinators) can made a difference here. Certificates should be given out in a timely manner by SMs, STMs, SECs, and net managers. Old timers with a lots of certificates sometimes forget how neat the first ones were. People do like to receive recognition.

If any of the above goals have been accomplished in your Section, let me know how it was done. That's the kind of information we need to share. We all have very busy lives aside from traffic handling. It's good to have goals but we also need to have some plan on how to achieve those goals.

Official Relay Stations, do you feel you should be 'required' to originate traffic? If so, how many per month? Remember, if you send a message from you to someone, it's a 'send,' not an origination. To qualify as an origination, the message must be from someone other than yourself.

Thus, note number 2 mentioned that an ORS must 'originate' while number 3 said each traffic handler should 'bring' (send) traffic.

Hit and Bounce

The Hit and Bounce Net covers the Eastern part of the US and meets every morning on 7039 at 8:30 am EST.

This independent net was started by Ben, W4PL, who was, according to *Traffic Call*, a legend among traffic handlers. "He began making BPL* in the early 1930s, 51 times before the outbreak of WWII. After the war he picked up where he left off and remained among the top three traffic handlers in the country until his last illness. (Anyone know who the other two were?) Ben used to say, "Although Amateur Radio is usually referred to as a hobby as a matter of pure law, no license is ever issued to any radio station except in the public interest, convenience, or necessity.

Of all those who avail themselves of the privilege, the traffic man comes nearest to living up to his share of the bargain. Disaster work is spectacular and gets headlines, but Amateur Radio's happiest contact with John Q Public is the steady day in and day out handling of messages, free, gratis, for nothing, on the house, and with the compliments of Amateur Radio. We are building for Amateur Radio an immense backlog of good will."

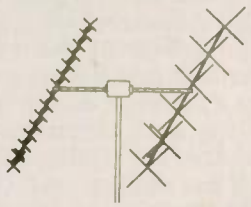
*BPL:

The Brass Pounder League represents the heavy hitters of the traffic handling world. Each time you originate, receive, send, and deliver a message you get a point. So, you get two points for many messages: i.e., you may receive and deliver it; you may originate and send it. As a liaison station you receive a message on one net and send it on the next. If you accumulate 500 points (about 250 messages - about 8 per day), your STM sends you a BPL card for the month.

When you get three cards, your STM submits your name to ARRL for a brass medallion with your call on the back. Since originations and deliveries are deemed the backbone of the system, you can get a BPL card if you have a combination of 100 points for originations and deliveries in a month.

P.S. You can't get any of the numerous awards if you aren't reporting your traffic activity to your STM. You don't have to belong to ARRL to get certificates. Join a traffic net and experience the joy and fun of traffic handling. WR

AMATEUR SATELLITES



WB8CKI
Terry Douds

344 E. Fifth Avenue · Lancaster, OH · 43130

Hello everyone! I would like to begin this month by thanking you all for the mail, both electronic and snail, concerning the past two columns. I look forward to your questions, and I will answer them as quickly as possible.

I will begin with what many call the "novice" satellite, RS-12/13. This Russian satellite currently stays in Mode K - which means the uplink passband is found on 15 Meters, from 21.210 MHz to 21.250 MHz, and the downlink will be found on 10 Meters, from 29.410 to 29.450 MHz. It is very easy to use. Since most amateurs have some form of HF equipment, it is usually not much trouble to give Mode K a try.

The next question is when do we try? To find out when the satellite is in view, we need to utilize a tracking program for your shack computer. In my last article I noted that there are many different software packages available for tracking from many different sources — AMSAT, Bob Myers, CompuServe, America Online, various local BBSs, local Satops, etc. One thing they all have in common is that they use Keplerian elements to figure out when the satellite is in view and where you will find it.

Keplerian elements are a set of data concerning the satellite's various orbital parameters that are updated on a weekly basis by NASA. They do this for literally hundreds of objects in space. This data, once distributed to the public, is picked up by AMSAT, the ARRL and others, and is edited into a set of elements relating to our amateur satellites. These are then made available to the amateur through the online services, as well as via packet, on AMTOR, and both in print and via voice nets. I pick mine up from my local packet radio BBS.

The elements come in two different forms; AMSAT format and the 2-line NASA format. In the AMSAT format, each "element" is described, and the figure listed next to it. This is a throwback to the "early" days, when people needed to type in the elements to their programs by hand. The NASA or 2-line format looks just like it sounds. All of the numbers are placed in a block, 2-line group. It is exactly the same data - just a different way to present it. Some software likes the elements in one or the other form for automatic loading; some can take either. Refer to your software instructions to see which format you need. There is even conversion software available to convert from one format to the other, should the need arise.

Tracking a satellite

Another piece of information that you will need to begin tracking a satellite is your latitude, longitude, and height above sea level at your location. How do you find this out? Many software packages have a data file attached that will list latitude and longitude for major cities around the world. However, if you are in a smaller area, there are a number of things you can do. Ask another ham in the area if they know the info. Check with any DXers if you have no satops in the area. Another option is to call your city or county engineer. Most offices will gladly supply you with that information. If you have access to the CD-Rom version of Buckmaster's *Hamcall*, it will give you general information of this type based on your ZIP code! This information needs to be entered into your program, as well as the number of hours you are offset from GMT.

Once this information exists, tell the program which satellite you are looking for and it takes it from there. Some packages only give you lists of numbers telling you what time the pass begins (AOS) and ends (LOS), and what its maximum elevation in de-

grees will be. Others are map based, where it draws a map of some section of the world and drops the satellite over it. Sometimes it will also show you the FOOTPRINT of the satellite's coverage area on the map. Whether it gives you lists or maps, the data is once again the same; if it says the bird is there, it IS. You have to begin to have some serious trust technology at this point.

If you now have information concerning an upcoming pass, put your receiver on 29.408 MHz (or 29.454 MHz) and listen for the beacon from the satellite. If your clocks are properly set, when the software says the bird is visible, you will begin to hear CW signals! Often these are letter and number groups, known as TELEMETRY. This information, when decoded, tells the control operators what is going on with the satellite, such as power output, battery condition, equipment temperatures, etc. At some point it will send "CQ CQ de RS12."

For the birds

Remember, for those of you with Advanced and Extra Class licences, you will have fun here. Listen for a signal; say you find someone calling "CQ" at 29.430 MHz. Dial up your transmitter to 21.230 MHz. Since RS-12/13 has a NON-INVERTING transponder on board, to hear USB on the downlink, use USB on the uplink! Also, note that as frequency goes up on the downlink, it goes up on the uplink as well! These two facts are different on the DX birds — I'll cover that in a later column.

For those without Advanced or Extra Class privileges, take heart! There is one other way to get into this bird— on the Robot. The Robot is a computer controlled CW QSO machine! You uplink on 21.129 MHz, and you will find yourself on the downlink at 29.454 MHz. Often the beacon will say "CQ CQ de RS12 QSU 21130 kHz AR." At this point, the robot is ready for use. Simply reply with "RS12 de WB8CKI (insert your call here...) AR". The Robot will respond with "WB8CKI de RS12 QSL NR 775 OP ROBOT TU USW QSO 775 73 SK". It gives you a QSO number, 775 in this example, says the operator is the Robot, repeats the QSO number and signs off.

What kind of antenna(s) do you need? I use a R5 vertical at about 10 feet elevation on top of my porch roof! Others use beams (point it in the general direction of the pass...it's a bit rough to try and track satellites without an elevation rotor), and some use more sophisticated antennas, especially for 10 Meter receiving. I do not use a preamp, but some do and feel it is helpful. There are plans in the *ARRL Handbook* for those into homebrewing, as well as both kit and assembled versions available commercially.

A station will appear to shift in frequency as the pass progresses. This is because of doppler shift — the same effect that makes a train whistle or a truck roar change "pitch" as it comes towards you and then goes away. On RS-12, LEAVE YOUR TRANSMIT FREQUENCY ALONE!!! Move your receiver VFO as the frequency changes, 'tracking' the station on receive. THIS IS ONLY TRUE ON RS-12! More on this later as well.

WA4SXM has written a wonderful beginners book on RS-10/11, RS-12/13, RS-15 and MIR called *The RS Satellites Operating Guide*. It is available from AMSAT for a very reasonable fee, and all the monies for the book go to AMSAT, to keep our birds in space!

Good luck attempting some QSOs on RS-12. Maybe I will bump into you there! If not, drop me a line via snail mail (column head) or e-mail at wb8cki@amsat.org 73 es CU on the birds! WR

Helical "J" Pole antenna for two meters

Len Morgan, K6LUQ

The following instructions are given for the construction of a Helical J-Pole antenna for two meters. Let us begin with the assembly portion:

1. Prepare Base. Drill 2 holes 5/16" diameter into the top of the base block. These holes are to be 2.31" apart center to center. It is very important that these holes be parallel to each other and perpendicular to the base, as later tuning of the antenna will be affected if they are not. It is strongly recommended that a drill press be used for this operation.

2. Assemble the 36" long dowel and the 13" long one into the drilled holes in the base. You might have to sand the ends slightly to make them fit into the holes. NOTE: At this time, verify that the 2 dowels are spaced consistently along their entire length (2" between). When you are sure of the fit, a dab of carpenter's white glue in the hole will hold them in place.

3. When step 2 is complete, give the entire unit a couple of coats of spar varnish for water proofing and set aside until dry.

4. Prepare wire. Start with 128" of #14 AWG wire and measure 30" from one end and remove 8" of insulation. You now have 30" of covered, 8" of bare and 90" of covered).

5. Winding the elements. Using the 3/8" diameter dowel, wind tightly with no spacing between the turns, both covered lengths of the wire. This will leave an uncoiled length 8" long near the middle.

6. Measure down 3" from each coiled section, and bend wire 90 degrees. If all was done correctly, you should end up with the 2 coils lying parallel to each other, with a 2" straight length between them.

7. Prepare feed line. It is highly advisable to have the feed line made up in multiples of .5 wave lengths.

Using RG-58 coax, remove outer covering approximately 1.5" from the end (use care not to cut the braid). Preferred method of preparing the end is to open the braid near the end of covering and pull the center conductor through the opening (not by combing out the braid).

8. Attach feed line to coiled radiators at a point 2.5" up from the previously made 90 degree bends. Attach the braid to the short tuning stub, and the center conductor to the driven element.

9. Stretch the coil on the tuning stub up to 11.5" above the base and the driven element up to 34.5" (you may

List of Materials

1. Driven element support — Hardwood dowel, 5/16" diameter, 36" long.
2. Tuning stub support — Hardwood dowel, 5/16" dia., 13" long.
3. Base — wood block, (hardwood recommended) — size not critical, but recommend 1½" x 2" x 4".
4. Radiating wire — 14 AWG, 128" long, insulated.
5. Coil form — 3/8" dia., dowel, 16 to 20" long. (This does not become a part of the finished antenna, but is only a tool).
6. Finish — Spar varnish (or other durable exterior paint).
7. Coax — RG-58, length should be in .5 wavelength multiples.
8. Heat shrink tubing — ¾" dia., 50" length will be sufficient for both elements.
9. Element tip caps — 2 each, size to suit finished elements.

Notes:

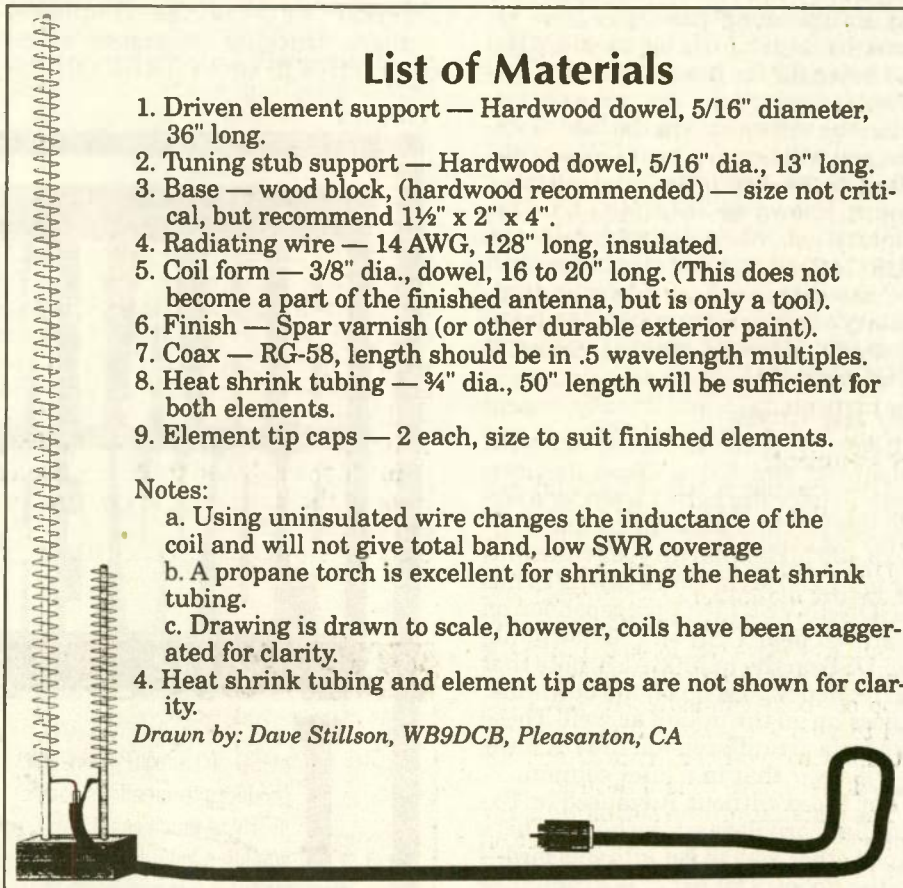
a. Using uninsulated wire changes the inductance of the coil and will not give total band, low SWR coverage

b. A propane torch is excellent for shrinking the heat shrink tubing.

c. Drawing is drawn to scale, however, coils have been exaggerated for clarity.

4. Heat shrink tubing and element tip caps are not shown for clarity.

Drawn by: Dave Stillson, WB9DCB, Pleasanton, CA



want to secure top coil temporarily with tape).

Tuning

Do not cut wire during any of the tuning procedures, just stretch or compress coils. Lengthen or shorten the tuning stub to obtain the best over all SWR (Note: Progress slowly as a .25" change will make a lot of difference if you are near resonance). Lengthen or compress the driven element *only* if resonance and SWR cannot be obtained from the tuning stub adjustment. Again — DO NOT CUT THE WIRE).

Before changing the length of the driven element, try increasing or decreasing the distance between the tuning stub and driven element very slightly as this is a CRITICAL ADJUSTMENT.

Once you have obtained the best possible SWR at low power, if you desire to use 25-50 watts, you will probably need to make touch-up adjustments at the higher output, and this adjustment should be done in an interference free environment.

After having reached final adjustment, coils should be attached to dowel to prevent them from sliding when the shrink tubing is placed over them. There are a number of ways to accomplish this. Use your own judgment, but a couple of ways would be to pinch the top of the coil into the dowel or place a drop of epoxy immediately down the rod to secure the coils from slipping. At this time you can trim off any excess dowel above coils if desired.

The installation and shrinking of the outer sleeve will have some effect on the coils and a slight change in SWR will be noticed. To correct for this, adjust the distance between the stub and driven element with a support spacer (spacer must be non-metallic). This spacer will serve two purposes — to maintain the critical distance between the elements and to add strength to the elements. **WR**

Skeleton crew

There are four main bones in every organization.

The wishbones:
Wishing somebody would do something about the problem.

The jawbones:
Doing all the talking, but very little else.

The knucklebones:
Those who knock everything.

The backbones:
Those who cary the brunt of the load and do most of the work.

—Simi Settlers' *Short Circuit*

Wire antennas and trees

Tom Rosebush, VE3KZE

If you're like me, blessed with a bounty of curiosity when it comes to antennas and gifted with an assortment of tall trees to "try them on," then you have probably tried many different ways of erecting your wired creations up into the uppermost branches.

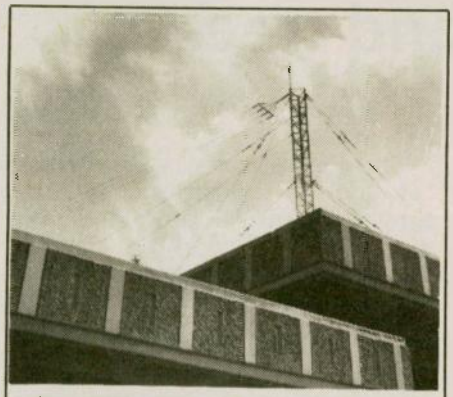
I've had my greatest successes with a Lacrosse ball, which is available at better sporting goods emporiums. This ball is about the size of a hardball baseball and consists of heavy "India" rubber.

To get the best usage out of the ball, you must first drill a small 1/8 inch hole right through the center of it. A small hook on one end that will fit through the ball and "fishwire" is constructed of a scrap piece of copper wire by forming a small hook on one end that will fit through the ball and "fish" back the start on a long length of lightweight nylon twine. Tie this twine to the ball and then uncoil long loops of the line onto the ground, being careful not to lay it upon twigs, etc., which might impede the flight of the twine up to its ultimate destination.

The balance of the line can be "staked" to the ground by a long screwdriver driven through the spool and pointing (roughly) in the direction of your throw to facilitate unwinding of the additional line. Take careful aim of your target branch and throw the ball such that it sails up and over the limb. If you miss the first time, don't worry; the lacrosse ball is heavy enough that it won't "hang up" halfway during its descent to the ground. Also, it's a simple matter to snip off the twine at the ball and pull the string back to your original "launch pad" to start the process all over again, with nothing wasted.

Believe me, I've tried everything from bows and arrows and slingshots to empty beer bottles in my efforts at erecting the ultimate skywire. Nothing approaches the success I've had with the lacrosse ball.

Oh, yes, it helps if you've been accustomed to throwing baseballs in your day; the highest branch in my trees check in at about 70 feet.—*SPARKGAP*



AERIALS

Kurt N. Sterba

I'm giving one of the antenna manufacturers in the amateur field a new name. They are the "Maverick" Antenna Company.

You may remember that it was Bret Maverick who said, "You can fool some of the people all of the time and all of the people some of the time and those sound like pretty good odds to me."

Yes, there is an antenna company that makes gain claims beyond belief. They must think that you are very gullible. They sit there writing numbers down and must be thinking that you are dumber than a dead skunk. I believe that while they are doing that, one man in the room says, "What if a ham magazine writer does an article about this?" The answer would be (and correctly so) "Aw, don't worry about it. He'll just get a lot of letters saying they don't want to hear about it."

"But Louie, I don't feel good about writing down these fake numbers."

"Aw shut up. You getting religion or something?"

There is an antenna company that throws out a lot of stuff about how there is added gain due to ground reflection. They neglect to mention that such figures are based on PERFECT ground.

Sadly, there really isn't a whole lot of that around. Tsch, tsch.

I like what Bert Tinker, KJ6NK, wrote: "Antenna advertisers are foolish to believe that we are stupid and cannot recognize falsehood and error in their ads."

How bad is it getting in antenna land? In a recent issue of *CQ*, Karl J. Thurber Jr, W8FX, wrote the following about the Lakeview Co., "Since George introduced the original WD4BUM Hamstick, many companies have copied the Hamstick design and the name as well."

Not very pretty is it? If you would like to get a catalog from the original guy, write to Lakeview, 3620-9A Whitehall Rd., Anderson, SC 29624.

Speaking of *CQ*, they recently ran a photo of the 20M, 11-element Yagi of OH6RM. (140-foot boom, up 100 feet)

Yes, I said ELEVEN elements on 20M. What claim do these sharp cookies make for that antenna? "Estimated gain is around 11 dB." Now, doesn't that make all the goofy claims by others look absolutely ridiculous?

I have my critics. But on the other hand, Bob Renfro, K4OF, who has a Ph.D. in electrical engineering from M.I.T. called the ***Worldradio*** office and said that he recommends my book AERIALS "as the best book on the subject ever written, better than any textbook." M.I.T. is so head and shoulders above the rest that it is acknowledged that there are many graduates of other universities that would have flunked out of M.I.T.

Let's take a look at modeling. This is the creating of an antenna configuration in much smaller scale. Quickly, for those who received their radio licenses from the Rick Crash school, we'll give an example. If you designed an antenna for 145 MHz (2M band) it would be one-tenth the size of antenna for 14.5 MHz (20M band). (Please! NO "but, that's out of the band" letters. I'm just giving an example.) You can scale up and scale down.

So on, let's say, 2M (not on a repeater frequency, please) you can just pump RF energy into whatever design you have come up with and observe the results on the field strength meter through your binoculars. Some cheap old 2M rig that you don't care about can be your RF source. Don't forget to ID at the proper time, of course. Naturally you will want to move away from the antenna under test so that your body does not affect it.

You could instead do your pretzel bending in the 430 band. Really build some little antennas at a reduction of about 31 times from 20M. (Watch out for the band plan in whatever VHF/UHF band you may be using.) Here you can build that half-loop driven element, solid copper pipe reflector, vertical 1st director, circular 2nd director, elliptical 3rd director, or whatever.

Will, when you have created the monster gain antenna, even surpassing that of over-caffeinated exuberant antenna manufacturers, it scale exactly?

No. The element length to diameter ratios will not be the same, the boom diameter ratio will not be the same and the thickness of the feedline ratio won't be the same, the matching system dimensions won't scale. (A half-inch feedline diameter at 2M would have to be five inches at 20M for everything to be the same.

But, what it will do is allow you to get the basic antenna design created inexpensively. If the experimental work is done at 430, hobby shops have aluminum or copper tubing.

Now no one can buffalo you. What is the real effect of adding one reflector to a dipole? What does the director add?

What lengths and spacing are best? Note: Adjustments can be made for

optimizing one factor. If you go for highest gain you will give up some front-to-back and the reverse. Matching will change with different adjustments. The bandwidth of the antenna will change with adjustments. There is no best dimension. It is entirely up to what you want to do. It will be a different design if you enjoy CW at the bottom and running phone patches at the top of the band. If all you care about in life is burning a hole at 14.153 MHz, a different design will be best for you.

Try to have the field strength meter as far down field as is practical. Check that the actual power into the antenna is the same for all tests.

Out there in hammy land is someone who hears from antenna companies when I take out after them. What he is supposed to do about it is a puzzlement. Unfortunately, I was told that he spoke quite harshly to a ***Worldradio*** staffer at Dayton. Grundig manufactures a short wave receiver called the Yacht Boy. So I'll refer to this particular hammy as Yacht Boy. He writes licensing manuals sold under various covers. I quote from his General Class book. "Never mount an antenna less than one-half wavelength from the earth. If you do, you will have tremendous signal distortion."

So that's what's been causing all those rotten signals on the band! Hey, all you guys, get those 20M antennas up at least 35 feet above the earth. Now I know why there are all those signals on 40M that are tremendously distorted. Their antennas are less than 70 feet above the earth. Say, I am just not going to work anyone on 80M whose antenna is less than 140 feet above the earth. Let somebody else's ears suffer from all that distortion. And as for what is called The Gentleman's Band, if you were really gentlemen you would get those antennas up around 300 feet so that you would not be sending out those tremendously distorted signals on 160M.

Oh! Just where do they get that stuff? "Tremendous signal distortion." It's hard to believe that such was indeed in print.

(Kurt N. Sterba is a nom de wireless for the mystery man who comes to the aid of radio operators that may be bamboozled. He tries to protect the Sparkys from vendors and writers.) **WR**

CONTESTS

The great New Mexico chili chase

Sponsored by the Gila Amateur Radio Society, the contest runs from 12 August 1800 UTC to 13 August 1800 UTC. The object is for stations outside of New Mexico to work as many New Mexico stations in as many NM counties possible. Stations in New Mexico work anyone.

Class entry: New Mexico fixed, mobile and out of state.

Exchange: New Mexico stations send signal report and county. Stations outside New Mexico send signal report and state, province and country.

QSO points: Each complete non-duplicate phone contact is worth 2 points. No partial contact credit. Duplicate contacts must be clearly identified in log. Stations may be worked once on CW and once on sideband per band. New Mexico stations that change counties are considered to be a new station and may be contacted again for point and multiplier credit. Only one transmitting signal is permitted per station entry.

Multipliers: New Mexico stations count states (50), Canadian provinces, and DX countries. All others use New Mexico counties for a maximum of 32. NM stations on a county line count only as one QSO, but may be claimed as a multiplier for any or all of the counties they give in their exchange. Number each multiplier as worked.

Score: The total score is the total number of QSO points multiplied by the total number of multipliers. New Mexico mobile stations multiply total score by total number of NM counties in which they were active for at least 3 QSOs.

Frequencies: 160, 80, 40, 20, 15, 10, 6 and 2 Meters. WARC band contacts do not count. All CW contacts must be made in the CW subband except for 160 Meters. All contacts must be simplex.

Logs: All logs and signed summary sheets must be submitted to: Gila Amateur Radio Society, P.O. Box 1874, Silver City, NM 88062. Entries which are computer logged must submit a signed hard copy summary sheet. Label each entry with call, entry category, and state/county/province/country. All entries must be postmarked no later than 1 September.

Awards: Certificates—each acceptable entry will receive a certificate commemorating the 1995 Great New Mexico Chili Chase. The top 3 entries in each class will receive chili from Hatch, New Mexico — the chili capital of the world. **WR**

hamfests July

Arizona

The AMATEUR RADIO COUNCIL OF ARIZONA will hold a hamfest on 21-22 July, 8 a.m. to 6 p.m. and 23 July 8 a.m. to 2 p.m. at the Fort Tuthill Coconino County Fairgrounds in Flagstaff. Features include manufacturers, dealers, exhibits, huge swap, camping, activities, VE exams on Saturday, No-code Technician class, Saturday night dinner and more. For information, contact ARCA, P.O. Box 32756, Phoenix, AZ 85064; 602/440-2039. Talk-in on 146.98(-) 100 Hz PL required.

California

The LIVERMORE ARK is sponsoring an Amateur Radio/Electronic/Computer Swap Meet on 2 July, 7 a.m. to 12 noon at Las Positas College. Features include refreshments, free parking and covered spaces in the event of rain. Admission is free. Sellers pay $10 space fee. Contact Noel Anklam, KC6QAK, at 510/448-3857 eves. or leave message days at 510/783-2803. Talk-in on 147.045(+) (PL94.8) from the west and 145.350(-) (PL 100Hz to receive and send) from the east.

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The RIVER CITY ARCS will hold a hamfest on 30 July, 8 a.m. to noon, with a picnic following at California State University (CSUS) in parking lot A, Sacramento. Vendors $10 for two spaces (two space minimum), buyers free. Picnic $2 for non-club member. For more information, call Troy, KD6HOJ, at 916/725-8152. Talk-in on 145.250(-) PL 162.2 Hz.

Illinois

The DUPAGE ARC will hold a hamfest on 9 July, 8 a.m. to 3 p.m. (setup 6 a.m.) at Santa Fe Park, 91st and Wolf Rd., in Hinsdale. Features include food, refreshments, free parking, and door prizes. Admission is $4 in advance (by 1 July) and $5 at the gate. For table availability information, call the hamfest information line at 708/985-9256. Send check payable and SASE to: DARC, Hamfest '95, 7511 Walnut Ave., Woodridge, IL 60517. Talk-in on 145.25(-).

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The FOX RIVER RADIO LEAGUE will hold a hamfest on 23 July, from 8 a.m. (vendor setup 6 a.m.) at the Waubonsee Community College in Sugar Grove. Admission is $4 in advance, $5 at the gate. Indoor tables $10 per 8'. VE exams 10 a.m. No mail orders after 9 July. For information, contact Diana, WD9API at 708/293-7485 or send SASE to Fox River Radio League, P.O. Box 673, Batavia, IL 60510.

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The MACOUPIN COUNTY ARC will hold a hamfest on 29 July, from 8 a.m. (vendor setup 6 a.m.) at the Macoupin County Fairgrounds. Features include large indoor buildings, shaded flea market, VE exams (prereg. required), handicapped accessible. Admission is $2. For information, call 217/854-8261. Talk-in on 443.440(+) 103.5 PL.

Maryland

The BALTIMORE RADIO AMATEUR TELEVISION SOCIETY will hold a hamfest/computerfest on 9 July, from 8 a.m. (tailgaters 6 a.m.) at the Maryland State Fairgrounds in Timonium. Vendors may begin setup 2 p.m. on the 8th. VE exams will be given at 10 a.m. with preregistration required. Call Les, W3GXT at 410/833-8667. Admission is $5, children under 12 free. Tailgating spaces $7. For information, call or fax 410/467-4634 or write BRATS Hamfest, P.O. Box 5915, Baltimore, MD 21208.

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The MID ATLANTIC DX & REPEATER ASSOC., will hold a hamfest on 23 July in Historic Brunswick at the Marc Train Station, Frederick County. Features include VE exams, seminars, demonstrations, flea market and vendors. Admission $5; flea market table $5; non-commercial tent $7; commercial tent $10. Tent/indoor spaces must be preregistered. For information, write: MADRA HAMFEST '95, 230 N. Potomac St., Hagerstown, MD 21740. Talk-in on 147.06(+), 448.125(-) repeater.

Michigan

The STRAITS AREA ARC will hold a swap and shop on 8 July, 8 a.m. to 1 p.m. at the Emmet County Fairgrounds in Petoskey. Features include exhibits and refreshments. Admission at the door is $3, tables are $5. For more information, call Harry Leiber, N80IV, 616/347-6610. Talk-in on 146.68(-).

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The CASCADES ARS will hold a hamfest on 9 July, from 8 a.m. (vendors setup 5 a.m.) at the Jackson County Fairgrounds. Admission in advance is $3.50 (before 30 June), $5 at the door. Tables $10 in advance, $15 at the door. Trunk sales $4 in advance, $5 at the door. Send SASE to CARS, P.O. Box 512, Jackson, MI 49204, or contact KD8B at 517/784-2398 (5 p.m. to 10 p.m.). Talk-in on 146.88(-).

The AU SABLE VALLEY ARC will hold a swap-n-shop on 22 July, from 8 a.m. (vendors 7 a.m.) at the Mio Au Sable High School, on M-72, 1 mile west of the blinker in Mio. Features include food and free parking. Lots of local attractions as well. Admission is $3, tables $5, trunk sales $2. For information, send an SASE to: Au Sable Valley ARC, P.O. Box 1, Mio, MI 48647 or call 517/848-5996 or 517/826-6454. Talk-in on 145.35(-), or 146.52(S).

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The EASTERN MICHIGAN ARC will hold a hamfest on 30 July, 8 a.m. (vendors 6 a.m.) to 2 p.m. at the St. Clair County Community College in Port Huron. Features include VE session, DX and packet forums. Admission is $3 in advance, $4 at door; tables $12 (reserve before 17 July); trunk sales $6 per space. For information, tables, or tickets contact Hank Kohl, K8DD, 1640 Henry St., Port Huron, MI 48060. Talk-in on 147.30(+).

Montana

The GLACIER WATERTON hamfest will be held 14-16 July at the Three Forks Campground 16 miles west of East Glacier, Montana. Features include seminars, dealer displays, barbecue, and activities for non-hams and children. Contact Frank Devitte, VE6ANL, 2423 26 Avenue, Calgary Alberta T2M 2H1 or call 403/282-2171 or Darrell L. Thomas, N7KOR, 406/453-8574.

New Jersey

The SUSSEX ARC will hold a hamfest on 16 July, from 8 a.m. at the Sussex County Fairgrounds in Augusta. Admission is $5; YLs and harmonics are free; indoor tables (limited) will be $10 and outdoor space is $9. For information, contact Daniel Carter, N2ERH, 8 Carter Lane, Branchville, NJ 07826; 201/948-6999.

New York

The GENESEE RADIO AMATEURS, INC. (GRAM) will hold a hamfest on 9 July, 6 a.m. to 4 p.m. at the Alexander Firemen's Grounds located on Route 98 just south of the Village. Features include breakfast, lunch, chicken barbecue, flea market, overnight parking. Admission is $3 in advance, $5 at the door (under 12 free). Vendors tables are $15 for 8' (contact Deb Johnson, 716/757-9213.) Flea market space is $1 or $2. Make checks payable to GRAM. Send SASE to Knute Carlson, 26 Burke Drive, Batavia, NY 14020; 716/3430-5580.

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The UTICA ARC will hold a hamfest on 22 July, 8 a.m. (vendors 6 a.m.) to 2 p.m. at the Herkimer County Fairgrounds in Frankfort. Features include VE testing (9 a.m., prereg. required), flea market and tailgating and ample indoor space. Admission $3. For information, contact Bob Decker, AA2CU at 315/797-6614 or write UARC, P.O. Box 71, Utica, NY 13503. Talk-in on 145.45(-).

North Carolina

The WESTERN CAROLINA ARS will hold a hamfest on 29 July, 8 a.m. to 4 p.m. at the Haywood County Fairgrounds (near Waynesville, NC). Free parking, refreshments. Admission $4 in advance, $5 at the gate. For information, contact Tommy Queen, K4BNP, 12 Lynwood Circle, Asheville, NC 28006; 704/258-2639. Talk-in on 146.76(-) and 146.91(-).

Ohio

The WOOD COUNTY ARC will hold a hamfest on 9 July, 8 a.m. to 1 p.m. at the Wood County Fairgrounds in Bowling Green, Ohio. Admission and parking is free. Inside sales, $10 per table; trunk sales $5 per space. VE exams offered. For information, write or all Wood County ARC, P.O. Box 534, Bowling Green, OH 43402; 419/372-2936. Talk-in on 147.180(+).

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The VAN WERT ARC will hold a hamfest on 16 July, 8 a.m. to 3 p.m. at the Van Wert County Fairgrounds Commercial Building. Features include exams, indoor and outdoor sales, food. Admission at door is $4. For table sales, contact Bob Barnes, WD8LPY, 419/238-1877; for exams, contact Bob High, KA8IAF, 419/795-5763. Talk-in on 146.85(-).

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The ASHTABULA COUNTY ARC will hold a hamfest on 30 July, 8 a.m. (7 a.m. for vendors) to 2 p.m. at Nappi's Party Center, 2255 West Ave., in Ashtabula. Features include prizes, food services, overnight parking, and a large paved flea market area outside. Admission is $4 in advance, $5 at the door (children under 12 years are free). Flea market spaces are $4 and indoor 8' tables are $8 for the first one and $6 each additional. Electricity is available. For more information and reservations, contact Ken Stenack, AI8S, 722 Lyndon Ave., Ashtabula, OH 44004 or call 216/964-7316 evenings before 9 p.m and weekends. Talk in on county repeater 146.715(-).

Oklahoma

The CENTRAL OKLAHOMA RADIO AMATEURS will hold a "Ham Holidays 95," on 28-29 July, 5 p.m. to 8 p.m. at the Oklahoma State Fair Park in the Arts and Crafts building. Features include VE testing, flea market, technical and non-technical programs, fox hunt. Admission $6 in advance, $8 at the door; tables, $10. Address all inquiries to Ham Holidays '95, P.O. Box 851281, Yukon OK 73085. Talk-in on 146.67(-).

Pennsylvania

The HARRISBURG RAC will hold a hamfest on 4 July, 8 a.m. to 1 p.m (vendors 6 a.m.) at the Bressler Picnic Grounds. Admission $4, XYLs and children free. Tailgating $5 per space; tables in pavilion $15 in advance. No overnight parking. For table reservations, call Tom Hale, WU3X, Box 418, Halifax, PA 17032; 717/232-6087. Talk-in on 146.76(-).

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The NORTH HILLS ARC will hold a hamfest on 9 July, 8 a.m. to 3 p.m. at the Northland Public Library in Pittsburgh. Free admission and free parking. One free space per tailgater; each additional space $5. Refreshments available. For information, contact Gregg Corsello, K3QK, 2021 Red Coach Road, Allison Park, PA 15101; 412/366-7006. Talk-in on 147.09(-).

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The INDIANA ARC will hold a hamfest on 23 July at the Red Barn Sportsman Club. Admission is $2, children under 12 are free. Inside tables $15; outside tables $10; tailgate $5 per space. Check or money order to Indiana ARC, Attn: Gary Robinson, K3SJX, 177 W. Burell St., Blairsville, PA 15717; 412/459-8941 or call Tom Ringler, WA3W, 412/349-8847.

Wisconsin

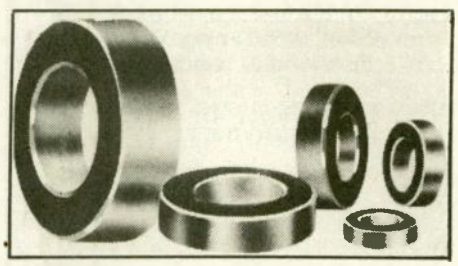
The RACINE MEGACYCLE CLUB will hold a hamfest on 30 July, 8 a.m. to 2 p.m. at the South Hills Country Club. Features include air-conditioned areas, food, flea market, commercial booths, tailgate area. Admission is $3 in advance, $4 at the door. Tables are $8 for 8' ($1 for electricity). Reservations by 14 July with a #10 SASE to: Racine Megacycle Club, P.O. Box 3, Racine, WI 53401. **WR**

Information in "New Products" is supplied by the manufacturers to acquaint *Worldradio* readers with new products on the market.

Toroid core catalog

Palomar Engineers offers their new 1995 Toroid Core catalog. It has specifications for ferrite and iron powder cores and for ferrite beads useful to eliminate RFI. Iron powder, ferrite and RFI kits are also described.

For a free copy, contact Palomar Engineers, P.O. Box 462222, Escondido, CA 92029, or call 619/747-3343, Fax 619/747-3346.



JMR Pico-RAID

The new JMR Pico-RAID is one of the few high-technology industrial data storage products that lends itself well to the hobbyist/consumer market because it is meant to be installed inside a typical PC or server cabinet.

The Pico-RAID is an multiple disk drive enclosure that accommodates five 3.5" low-profile (hard disk) drives, allowing up to 8 GBytes storage with currently available, low-cost technology. It fits in a PC or server cabinet in the space intended for three 5.25" half-high drive bays. Along with either a software or hardware RAID (Redundant Array of Independent Disks) controller, the Pico-RAID, which draws power from the PC power supply, offers 100% real-time data storage redundancy, eliminating the need for tape (DAT) backup for absolute data security. If one hard disk in the disk array fails, not even a single byte of data is lost. The drive can be immediately replaced ("hot swap") without shutting off the PC power or interrupting ongoing activities.

The advantage of such a product for home/hobbyist or amateur users is four times the data storage, with enhanced access time, of any single hard disk drive; the elimination of the necessity for tape data backup, which is costly and very slow; and a completely redundant "fail-safe" system to protect important data, all in an affordable system that can be installed inside a PC. The advantage for hams include the ability to store the entire US and DX *Callbooks*™ on disk with access speed that is orders of magnitude faster than a CDROM, the ability to both read from and write to 8 GB of disk memory, etc. One could keep multi-multi contest logs for more than 1000 contestants on disk and be able to access that data for years to come without worrying about a "disk crash." Also, the system is expandable as newer generation drives are developed with even greater capacity. (Micropolis has developed a 9 GB hard disk, which would give this RAID system 36 GB storage with 9 GB parity). New developments are not generally affordable for hobbyists at first, but become affordable after some time. Who knows what the future holds?

For more information on the JMR Electronics, Inc. Pico-RAID, contact JMR Electronics, Inc., 20400 Plummer St., Chatsworth, CA 91311 or call 818/993-4801. The price for a Pico-RAID with standard SCSI 50-pin I/O and five removable drive canisters with power and drive activity LEDs is $584.00. All that needs to be added by the user is five 3.5" low-profile disk drives of the user's choice, and either a software or hardware RAID controller. This product is immediately available from stock.

NIR-12

JPS Communications, Inc., is pleased to announce the most advanced DSP noise reduction and filter unit available to amateurs and SWLs: the NIR-12 Noise and Interference Reducer and Filter Unit. The unit is a state-of-the-art audio signal processor designed to provide the user with maximum flexibility to reduce or eliminate most types of interference from received voice, CW and data transmissions. The NIR-12 uses DUAL Digital Signal Processors (DSP) to provide simultaneous bandpass operation, noise reduction and multiple tone removal. The spectral notch filter eliminates multiple tone interference from "tune-ups," foreign broadcast carriers, CW, RTTY, etc. Two methods of noise reduction are provided: Improved Spectral Subtraction (NIR®) and Improved Dynamic Peaking to give the operator the best audio noise reduction possible.

For experimenters, access to the dual DSPs is provided via RS-232 on an internal header.

The Improved NIR® mode of noise reduction automatically enhances voice, CW or data signals by recognizing the speech, CW or data and reducing the amplitude of all signals which are not part of the desired information. In addition to providing a continuously variable processing level, the NIR® control features an AUTO position to give the optimum noise reduction based on the measured signal to noise ratio.

The Improved Dynamic Peaking noise reduction features an external PEAK FACTOR switch to allow the operator to control the "aggressiveness" of the PEAK mode. When this mode is used in conjunction with the NIR mode, exceptional noise reduction can be attained without damaging speech components or intelligibility.

All modes in the NIR-12, except the NIR mode, operate in "real time" with very small delay, so the unit may be used in all data modes. The Finite Impulse Response (FIR) filters provided in the unit have very

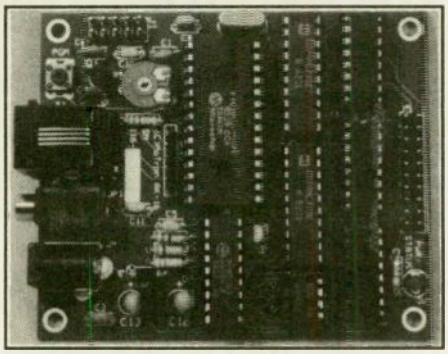
steep skirt selectivity, linear phase in the passband and minimum passband ripple, all desirable characteristics for good data and SSTV reproduction. The bandwidth of the filter is variable from 50 Hz to 3200 Hz and the center frequency of the chosen filter is variable from 200 to 3400 Hz. The combination of variable filter bandwidth and variable center frequency provides exceptional "user friendly" operation.

Installation is quite simple: The unit gets its audio input from the receiver speaker output, line output or headphone jack, then provides volume-adjustable processed audio from its own built-in amplifier to power an external speaker of 3 to 8 ohm impedance. A line output, unaffected by the volume control, is provided for modem or phone patch. The NIR-12 requires 12V DC at 1A peak. Power adapters are available from JPS at nominal cost. Mating connectors are supplied with each unit. The unit has a one year factory warranty and can be upgraded.

For more information, contact JPS Communications, Inc.., P.O. Box 97757, Raleigh, NC 27624 or call 919/790-1011.

Auto-Kall AK-16

The Auto-Kall AK-16 is the newest member of the MoTron Auto-Kall product line. It is a DTMF controller with 16 relay driver outputs, DTMF to X-10 home control, CW ID, and Morse response tones. A relay board with screw terminal blocks, sold separately, can be directly mated to the AK-16 for easy set-up.



All 256 X-10 house/unit codes can be addressed, allowing the user to control lights, appliances, gates, etc., with the DTMF keypad on a hand-held or mobile radio. The "house" code can be changed "on the fly." Outputs can be configured for several different modes of operation. One mode makes it possible to easily control the pan/tilt focus/zoom functions of a remote video camera and also provides latching outputs for controlling transmitting, lights, etc. The AK-16 can be configured with a Morse response after each output is turned on, off, or triggered momentarily. This assures the user that the command was received and executed. An output can also be polled to see if it is on or off. The 0-12 digit security code and 32 character CW ID are easily programmed using a DTMF keypad. The AK-16 also has a serial output that converts incoming DTMF to ASCII for input into your computer.

The AK-16 is sold as a fully assembled circuit board. Price is $99.00 and is available from MoTron Electronics at P.O. Box 2748, Eugene, OR 97402; 800/338-9058, Fax 503/687-2492.

PowerTalk™

SGC, Inc., is pleased to unveil their new PowerTalk™ control head. PowerTalk™ is a full-featured ADSP™-SNS™ control head for SGCs Model SG-2000 or SG-2000SP transceiver. PowerTalk™ incorporates adaptive digital signal processing and spectral noise subtraction to provide unsurpassed signal quality on the HF bands, with user friendly operation via LED indicators.

The PowerTalk™ ADSP™ reduces unwanted noise. The operator can adjust the frequency range and can then adjust the center frequency up or down via the spinner knob control. *The result is signal quality.* The SNS™ feature subtracts noise in the spectrum where voice modulation is not present, further enhancing the signal to an unsurpassed level!

A notch filter feature allows up to 5 tones to be suppressed simultaneously and user memory (8 preset and 7 user programmable) allows the operator to configure the frequency and mode for ease of operation. Surface mount technology ensures reliability in any environment.

The PowerTalk™ control head is designed to operate with the SG-2000 or SG-2000SP transceiver. The SG-2000 series of SSB radios are 150 watts and 644 channels and operating in the 1.6 to 30 MHz range.

Introductory price for the SGC PowerTalk™ is $2,495.00. To receive a brochure on this exciting new product, contact SGC, Inc., P.O. Box 3526, Bellevue, WA 98009 U.S.A. or call 800/259-7331 or Fax 206/746-6384. WR

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 September, please have the information to us by mid June.

p/r = pre-register

Worldradio, 2120 28th St., Sacramento, CA 95818. Please mark the envelope "VE Exams."

List the location, any information examinees should have (advance registration, etc.) and the name and telephone number (include area code) of a person to contact for further information.

w/i = walk-in

Date	City	Contact	Notes
Arizona			
8/12/95	Tucson	Joe, K7OPX 602/886-7217	w/i only
8/19/95	Tucson	Micki, AA7RR 602/883-8305	p/r req
Arkansas			
8/19/95	Mtn.Home	Gerald WM5W 501/430-5123	p/r req
8/12/95	Siloam Springs	Ward, WA5NRT 918/326-4631	w/i OK
California			
8/12/95	Carlsbad	Rusty, AA6OM 619/747-5872	w/i pref
8/6/95	Chico	Jacquelyn, W6YKU 916/342-1180	p/r pref
8/26/95	Chula Vista	Jim, KK6KZ 619/428-8418	w/i pref
8/24/95	Colton	Harold, AB6RN 909/685-6073 eves	w/i
8/6/95	Concord	Gene, WW6H 510/254-5090	w/i only
8/26/95	Culver City	Scott, K6PYP 310/459-0337 or Dave, N3BKV 818/559-2572	w/i
8/26/95	Escondido	Harry, WA6YOO 619/743-4212	p/r only
8/26/95	Fairfield	Dick, AB6EY 916/791-0268	w/i pref
8/12/95	Fontana	Ken, KE6GRY 909/685-7694	
8/17/95	Ftn. Valley	Cam, KI6WK 714/846-6984	
8/1/95	Fremont	Greg, KJ6EP 510/791-6818	w/i only
8/12/95	Glen Ellen	Jim, 707/996-6461	p/r
8/26/95	Pomona	Don, WA6HNC 909/949-0059	p/r pref
8/19/95	Porterville	Phil, WA6WRS 209/535-4288	w/i only
8/19/95	Redwood City	Joe, KB6OWG 145.23(-) PL=100Hz	w/i only
8/2/95	Sacramento	Jim, AB6OP 916/393-8839 or Earl, AB6CN 916/331-1115	p/r pref; w/i OK
8/19/95	Sacramento	Phil, N6ZVA 916/338-3223	w/i
8/19/95	San Diego	Jeff, AB6NE 619/295-5852	w/i pref
8/5/95	San Luis Obis.	Charlie, KD6RCQ 805/528-1022	
8/5/95	Santee	Knick, K6SK 619/466-8219	w/i pref
8/12/95	San Pedro	N6DYZ 310/325-2965	p/r
8/19/95	Stockton	Mark, W6DKI 209/465-7496,	w/i
8/12/95	Sunnyvale	24-hr recording 408/255-9000	w/i only
8/12/95	Torrance	Joe, WB6MYD 310/328-0817	
8/18/95	Vacaville/Elmira	Cliff, K6HIH 707/448-4633	w/i only
Colorado			
	All Colorado exams, 24-hr recording 303/360-7293		
8/12/95	Colorado Spgs.	Rick,719/531-9423	w/i OK
8/12/95	Denver	Glenn,WØIJR 303/366-9689	w/i OK
8/12/95	Greeley	Rick Hubbard, 303/353-3577	w/i OK
8/5/95	Littleton	David Avery, 303/795-5718	w/i OK
8/26/95	Longmont	Randy Abbott, 303/651-1075	w/i OK
8/5/95	Sterling	Blaine,WAØJTB 303/522-5787	w/i OK
Connecticut			
8/23/95	Shelton,	Lee, WA1TSW 203/735-9476	w/i OK
Florida			
8/19/95	Melbourne	WB9IVR 407/724-6183	w/i OK
8/17/95	Vero Beach	Roger, KC4NHB 407/567-3979	w/i OK
Georgia			
8/26/95	Dalton	Bert, N4BZJ 706/259-5625	
Idaho			
8/2/95	Athol	Bob, N7GHV 208/683-2094	p/r only
8/12/95	Boise	Lem, W7JMH 208/343-9153	w/i OK
8/23/95	Grangeville	Steve, KD7EV 208/628-3452	w/i OK
8/12/95	Priest River	Russ, AA7XM 208/265-4534	p/r only
Illinois			
8/19/95	Morton	Jim, NT9C 309/266-6756	w/i OK
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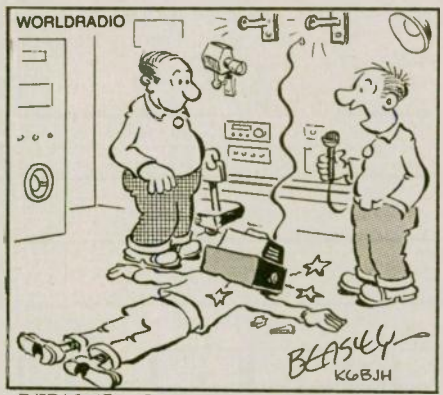

EVERY TIME I TRY TO PUT ON AN ATV DEMO, SEEMS LIKE NOTHING WORKS RIGHT

Haste makes waste

Carl Valdrow, N6KMH

The old adage, "Haste makes waste," is all too true, then Murphy's Law takes over.

I was to present the program for our local radio club. I was going to demonstrate ATV. I did all of the "right" things to prepare for the night's program. All my equipment was double-checked and tested, all functioned properly with a good P5 picture, good audio and color. The equipment was dismantled and packed into my car. The equipment to be used for the demonstration was a PC Electronics one watt transmitter, PC Electronics down converter, a TV set, and an 8mm camcorder along with the coax cables and antennas.

With a volunteer, Jeff Hall, N6MYF, we started to set up at the meeting room in the City of Davis' Police department. Everything seemed to be going well. So everything was plugged in and turned on. Lo and behold, no picture; just hash and no sign of a signal. The channel was changed from 2 to 4 and still no change on the screen. So in haste I opened the down converter and started to adjust the appropriate capacitors with no positive results; no picture. I dashed out to my car where Jeff was shooting pictures of people and cars going by. A quick check of the equipment and everything appeared okay. Back inside, still no picture. Out to the car again to check things and I noticed that I had accidently plugged the audio into the video jack and the video into the audio.

So I tuned the transmitter switches and changed the plugs; turned the power on and dashed back into the meeting room expecting to see a P5 picture. No such luck. So I tried to retune things again. Still no picture.

The meeting had already started and the preliminary things had been completed and the group was waiting for me to show them how great "Fast Scan Amateur TV" looks. Well, I made one more dash to the portable set up in the car and I discovered that again, in my haste to get things going, I had made another goof. I had forgotten to turn the transmitter switch on when I turned the power on. Now I was sure that when I got back in the meeting room that with a couple of quick turns I would be looking at a great picture. Well, no such luck. Again, in my haste and feeling rushed, I had inadvertently turned the wrong capacitor and was not able to produce a picture.

At this time our club president suggested that I just *tell* people about how ATV works, what equipment is needed, and some of the ways that ATV can be used.

After the meeting was over, I packed up my equipment and went home feeling embarrassed about how poorly my "great demo" had gone. The following morning I hooked the thing up, turned on the transmitter, adjusted the down converter and there it was, a perfect P5 picture.

I learned a good lesson from this whole mess. Murphy's Law had done "its thing" to me, all because I didn't take enough time to double-check things and make sure everything was correct. WR

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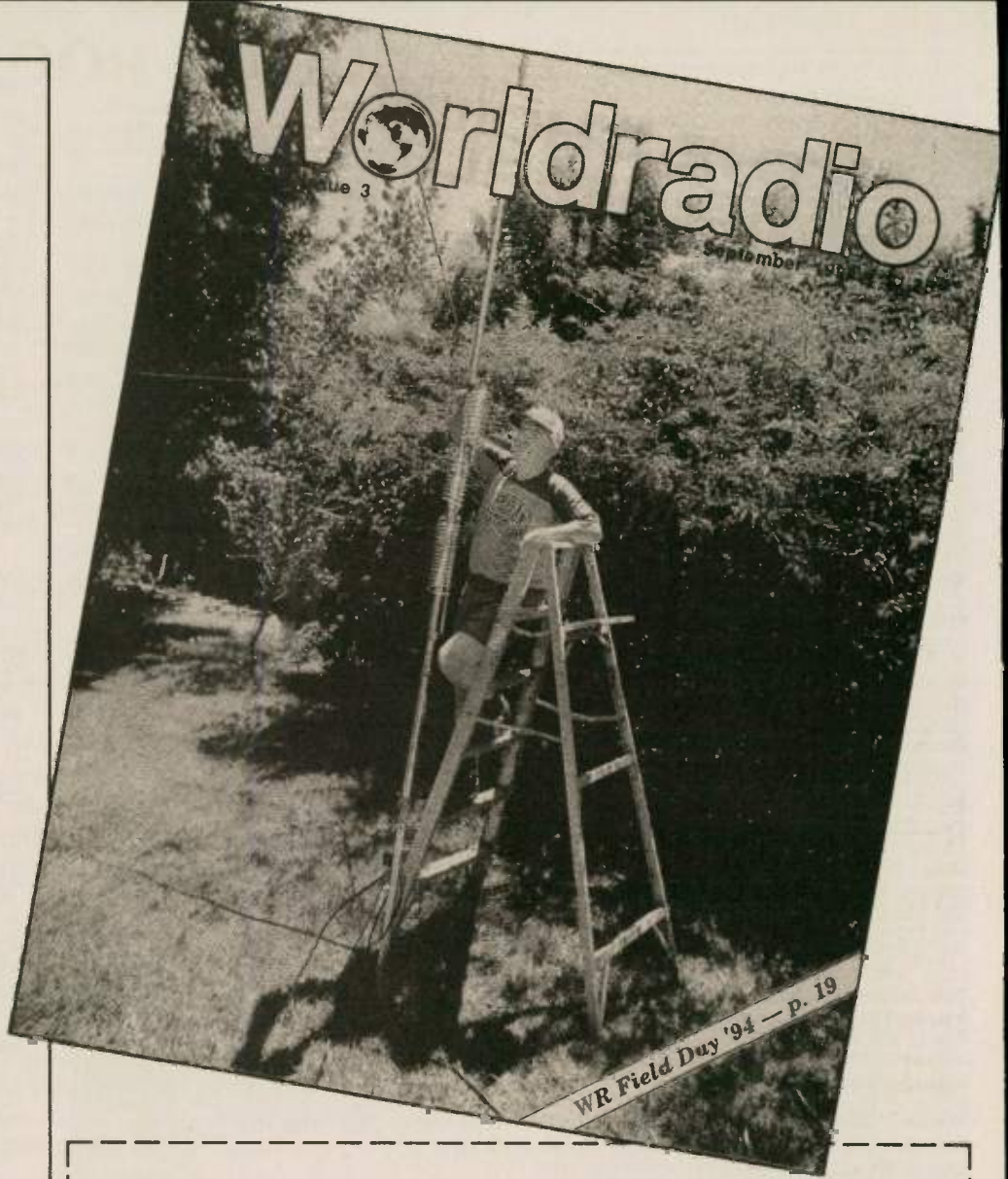

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During the days and nights immediately following the blast, I was often in the law enforcement command post area north of the damaged building. Lt. Stan Van Nort seemed to always be at his post, helping coordinate relief and rescue efforts and vital perimeter security duties. Like all his fellow Oklahoma City police officers and the many law enforcement professionals who rushed to our aid, Stan Van Nort did his duty with dignity, compassion and professionalism. I am proud to help honor and thank him today.

In times of need the Amateur Radio community is always there, often from great distances. I know many unsung and anonymous heroes and heroines helped with communications during the disaster. We will never know their names, but I hope you will accept my thanks and the appreciation of the people of Oklahoma on their behalf.

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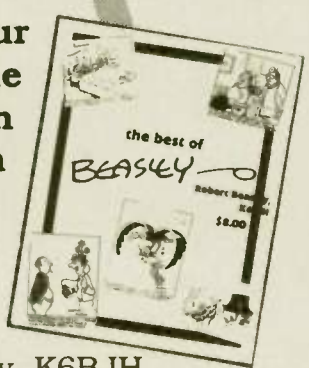

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