NEWS • FCC • DX • MARS • QRP • SAR • CONTESTS • FM • QCWA • QSLs

WORLDRADIO

Year 31, Issue 4 www.wr6wr.com October 2001 • $1.50

Maritime Mobile from Antarctica - 6

Also in this issue:

VE3GLN named 2000 Canadian Amateur of the Year

The Radio Amateurs of Canada Board of Directors has elected Glenn McLeod, VE3GLN, of Ottawa, as the Canadian Radio Amateur of the Year for 2000. An ARRL Life Member, McLeod is a retired Canadian Armed Forces officer. He currently serves as logistics officer at the Communications Research Centre. Licensed in 1978 as VO1DV and later as VE3MPR, McLeod is active on all bands and modes from 160 Meters through to 70 cm with 270 DXCC entities confirmed. The RAC Board recognized McLeod for conceiving of and organizing the record-breaking 35A 2000 Field Day entry in the Ottawa-Hull region, which focused public attention on Amateur Radio's public service role. An engraved silver tray will be presented to Glenn McLeod by RAC Ontario North Regional Director Doug Leach, VE3XK. — *RAC, ARRL Letter*

Morse practice is legal

According to FCC Special Counsel for Amateur Radio Riley Hollingsworth, holding Morse training sessions on the air is legal under the Part 97 rules. Hollingsworth said he has been asked this question by several Hams. He ran it by the FCC's Bill Cross who is an expert in the area of Rules and Regulations, and the answer is yes.

"The rule that applies is Section 97.111(b)(5). No permission from us is required for a station to make transmissions necessary to assist persons learning or improving proficiency in the International Morse Code. Any station may make these transmissions subject to the privileges authorized to the control operator. Of course the rules about sharing channels and listening before you transmit always apply," Hollingsworth said.

But what about practice sessions that are primarily character numbers sent as groups? Hollingsworth says that's also legitimate, as long as the transmissions meet the prohibitions of the rule dealing with codes and ciphers.

Hollingsworth went on to explain, "Transmitting characters and numbers in groups such as call signs and contest scores, as I understand it, is one method of transmitting letters and numbers that solves the anticipation problem. The rule that prohibits messages in codes and ciphers intending to obscure the meaning of the message has an exception only related to space station telemetry. We do not have any rules that address this specifically, so as long as the message is not intended to obscure the meaning, there would be no rule violation."

Hollingsworth adds that sending code in groups of call signs or numbers and such makes for a better learning process and better preparation for the code test. — *FCC, RAIN, Newsline*

Maritime net "delivers" baby

Thanks to Amateur Radio, a sailor aboard a U.S. Navy destroyer at sea got to hear his newborn son's cries for the first time. On 12 August, members of the Maritime Mobile Service Net, with cooperation of the Pacific Seafarers Net, put sailor Mark McDonald in touch with his wife, Wendy, in California, who was about to go into labor. The sailor later was able to chat with his wife and her mom and to listen to his son's crying.

Terry Pipitone, KB1FMM, in Connecticut, got a front-row seat. He said the Net session started out in typical fashion on 14.300 MHz. It soon got interesting after Tom Lange, W4MDL, on McDonald's ship sought help from anyone who could put the husband and wife in contact. When no West Coast stations were available, Pipitone made some calls to California, where, as it turned out, Wendy McDonald was headed for the hospital.

As the Net's closing time neared, the proceedings shifted to the Pacific Seafarers Net on 14.313 MHz. While KB1FMM remained in contact with the hospital, ARRL member Tom Whelchel, WA6TLL, in California stepped in to provide a phone patch between the hospital and the ship, somewhere in the North Atlantic.

As Pipitone tells it, things happened pretty fast after that. "At 0810 the baby was born and at 0815 Mark and his new son, Justin Alexander McDonald, were on the phone together," he said. "Mother and son were all doing fine, and the proud father was in tears. The timing and the cooperation could not have been better."

Listening in on the proceedings was Eric Boyle, NØYET, in Kansas, who reports Mark McDonald not only was able to speak with his wife and his mother-in-law but got to hear his baby crying for the first time. "This was neat!" he enthused. "It is times like this that make me extremely proud to be part of the Amateur Radio Community!"

For more information on the Maritime Mobile Service Net, visit the Net's website at: *www.mmsn.org*. — *ARRL Letter*

Hams track police radio interference

Hams in Middletown, Ohio, helped track down a local amateur who was subsequently arrested 7 August on state charges of "disrupting public services." Authorities allege that Kenneth Kelly, WT2FBI, a Tech Plus licensee, was interfering with police radio calls while using a modified transceiver. The charge is a fourth-degree felony.

The FCC has been notified, and Kelly, 28, also could face federal charges.

"The alleged offender was repeating what sounded to us to be CB broadcasts onto the police channel," said ARRL member Ernie Howard, W8EH, a city radio maintenance shop employee who was involved in the tracking. Kelly had apparently just moved to the area. Authorities reportedly said the interfering operator also attempted to talk to dispatchers and police officers and made racial slurs and obscene remarks. At a preliminary hearing, Kelly was bound over for possible grand jury indictment. He is being held in lieu of $25,000 bond. — *W8EH, The Middletown Journal, ARRL Letter*

WORLDRADIO

On the cover: Mike Gloistein, GMØHCQ, submitted his story about operating as Maritime Mobile from Antarctica along with some outstanding digital photographs. See page 6 for the whole story!

PUBLISHER: Armond Noble, N6WR
ASSOCIATE: Glen Rudesill, W6RWR
EDITOR: Rick McCusker, WF6O
ASSOCIATE: Norm Brooks, K6FO
PROOFREADER: Jane Albusche
LAYOUT
GRAPHICS MANAGER: Clayton Guy, K6GUY
ADVERTISING
DIRECTOR: Helen Noble
MANAGER: Brenda Evans
GRAPHICS DIRECTOR: Dianne Dunning
SUBSCRIPTION STAFF
CIRCULATION MANAGER: Marcia Watson
ADMINISTRATIVE ASSISTANTS: Cheryl Ashby, Maureen Rudesill

Published monthly by **Worldradio**, *Inc., 2120 28th St., Sacramento, CA 95818 USA; 916/457-3655. Club call: WR6WR.*

Worldradio *(USPS 947000) is an international conversation. You're invited to participate. Our goal is to be a valuable resource of ideas and experiences beneficial to the Amateur Radio community. We publicize and support the efforts of those who bring the flame of vitality to this avocation. As readers, you are participants in 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.*

Articles for consideration may be submitted through the U.S. Postal Service or e-mail to articles@wr6wr.com.

To Subscribe: *Send check to* **Worldradio**, *2224 Beaumont St., Ste. D, Sacramento, CA 95815 or call 877/472-8643. Periodicals postage paid at Sacramento, CA & additional offices. SUBSCRIPTION RATES: $14.79* one year; $27.79* two years; $40.79* three years; $186.79* Life; *$10 extra per year for surface mail delivery to non-U.S. ZIPs. Please remit international postal money order. IRCs will be accepted.*

POSTMASTER: *Send address changes to* **Worldradio, Inc.**, *P.O. Box 189490, Sacramento, CA 95818 USA.*

October 2001 Year 31 Issue 4

Editor's Log

Now I know my words of wisdom are having an effect on our readers. After all, I usually fill this space with a little tale about how intelligent our Lifetime Subscribers are. They must be, for they know a value when they see one.

As a result of my efforts to draw your attention to what a great bargain a Lifetime Subscription is, we have the following new Lifetime Subscribers. They are:

- **Charles Walbridge, K1IGD**
  Framingham, MA
- **Warren Ritchie, WA1EVT**
  Newbury, NH
- **Paul E. Sojka, Jr, KS2S**
  Perth Amboy, NJ
- **Michael M. Raskin, W4LIM**
  Plantation, FL
- **Frank L. Barnes, WA5GDF**
  Biloxi, MS
- **Robert Carson, N8CUX**
  Westerville, OH
- **John Parker, WB8RVK**
  Ontonagon, MI
- **Rich Range, WB9SFG**
  Warrenville, IL
- **Ron Story, NEØX**
  Liberty, MO
- **Len Worcester, W7LIM**
  Anchorage, AK

Several times we have heard the comment, "*Worldradio*? Isn't that the California newspaper?" Well, take note — not a single new Lifetime Subscriber listed above lives in California.

•

I received a phone call yesterday from Jim Haynie, W5JBP, the President of the ARRL. We chatted for about half an hour on various subjects, but he specifically wanted to know my opinion on the ARRL proposal for a new Amateur Radio band on 60 Meters (5 MHz).

He was amazed when the FCC put a Rule Making number on it and called for comments within three weeks after the ARRL filed the petition. I told him I thought it was a darned good idea. Most amateurs use 40 Meters during the day for contacts within 500-600 miles and it does a pretty good job, right? But what about at night, when 40 opens and the band is alive with foreign broadcasters? It just makes sense that if you want to make a semi-local contact at night, 60 Meters is just the ticket! No Foreign broadcasters to fight, right? But then again, the proposal calls for this to be a U.S. only allocation, so no possibility of DX contacts.

This band would be between 5.250 and 5.400 MHz, and we would be a secondary user. I haven't checked to see who the primary users of the band would be. Probably some super-secret military group! I know from my air-to-ground days in the Coast Guard that two frequencies just above this band, 5.692 and 5.696 are still used as air-to-ground frequencies, primarily for the USCG.

Now I know there will be some amateurs who will complain about not being able to use this new band because they are using older equipment and it's not capable of operation on 60 Meters. Those same amateurs were the ones complaining about the WARC bands at 12 and 17 Meters, too. Most of the newer HF rigs are perfectly capable of using 60 Meters — one more reason to upgrade your gear!

The FCC has opened the proposal for comments and I urge all of our readers to send in your comments on this proposal. The rulemaking number is: RM-10209.

I told Mr. Haynie the *Worldradio* staff will support this effort all the way.

•

Do you utilize your Amateur Radio skills to support your local law enforcement agency? We have a group of Hams who lend their talents to the Sacramento County Sheriff's Department and we are looking for ways to enhance our value. We are looking for ideas for new programs and ways to serve the citizens of our county. So, we want to know what you do! Please send your comments to me at my callbook address or at my home e-mail address: wf6o@aol.com. Or send your comments to Deputy Jim Collentine, K6JMC, at e-mail address: jcollentine@sacsheriff.com. — *WF6O*

MOBILE DX MASTER

Since its introduction over a year ago, Yaesu's FT-100 HF/VHF/UHF Transceiver has been widely acclaimed for its outstanding performance and flexibility. Now the FT-100D builds on this success story, adding the convenience of factory-installed modules for today's Ham on the go!

FT-100D HIGHLIGHTS

The FT-100D is a high-performance, ultra-compact transceiver operating on the 160-10 meter HF bands, plus the 50, 144, and 430 MHz VHF/UHF bands. Known for its outstanding receiver performance, the FT-100D's easy-to-access DSP system is the cornerstone of the outstanding receiver capability. Providing Noise Reduction, Auto-Notch, and Narrow-Bandwidth Filter selection, the DSP system also includes a Microphone Equalizer for the transmit side.

The new and enlarged speaker of the FT-100D (ϕ66 mm) provides spectacularly clean audio output, to help you dig out those weak signals.

Whether at home or away, the fantastic new FT-100D is The Choice of the World's Top DX'ers. Step up to the FT-100D, and enjoy the thrill of the sunspot peak in style!

MICRO MOBILE

FT-100D

Ultra-Compact HF/VHF/UHF Transceiver

YAESU

Choice of the World's Top DX'ers

For the latest news, hottest products
Visit us on the Internet! http://www.yaesu.com

Working from Antarctica

Mike Gloistein, GMØHCQ
VP8CMH/MM/VP8SGK/VP8ROT

I suspect that I am somewhat envied by a large portion of the Amateur Radio world as nearly all of my operating can be classed as DX. What is more, I get paid to do it!

How? I am a serving Radio Officer with the British Antarctic Survey, having joined them in September 1990 and spending between four and six months of most years in Antarctic waters. Being a keen Ham I have ensured that as the requirement for CW in the commercial world has diminished, and in fact vanished now with the advent of the Global Maritime Distress Safety System (GMDSS), that the equipment onboard our vessels still has CW enabled. The other good thing is that the frequencies that are used in the Antarctic are varied, with allocations in the 3, 5, 7, 9, 11, 14 and 16 MHz bands, so the commercial equipment has to be able to go anywhere within the 1.8 – 30 MHz spectrum.

I operate as GMØHCQ/MM outside of Antarctic waters, on passage to or from the UK or in UK waters during the Antarctic winter periods, and then once down south I change my call to VP8CMH/MM. The 2000/2001 season also saw me operating from two of the British Bases, Rothera (on Adelaide Island) and King Edward Point (South Georgia), using the base call signs VP8ROT and VP8SGK. This was the first time that I have been able to do this, mainly due to having a very good logging program and a laptop that I can take ashore, along with my keyer.

Mike Gloistein, GMØHCQ is the radio officer aboard the British research vessel *Ernest Shackletom.*

I am currently serving onboard the Royal Research Ship *Ernest Shackleton*, which came into service at the end of 1999, replacing the RRS *Bransfield* after nearly thirty years of service to the Survey.

The *Ernest Shackleton* is a small vessel, being only some 80m in length, 18m wide with a draft of about 6.85m when fully loaded. She has room onboard for 50 personnel that we carry to the bases during the summer months) and 21 officers and crew. She also has a fully equipped hospital and a doctor and dentist onboard during the Antarctic season.

The season starts for the vessel in early October when all the cargo for the bases is loaded, normally in the port of Grimsby on the East Coast of the UK, and once loaded a small number of supernumerary personnel join us for the voyage south. The course taken is to run down the channel into the Atlantic, then head across the Bay of Biscay until level with the Gibraltar Strait, then cut across the Atlantic towards St. Peter and Paul Rocks and on towards the Brazilian coast. This is then followed down to the city of Montevideo, Uruguay, where we stop for a short visit to embark more personnel, and then head due south for the Falkland Islands, which is the main forwarding point for the British Antarctic Survey.

From the Falklands the vessel will normally head for Signy Island, part of the South Orkney group, and then up to South Georgia and Bird Island (at the western end of South Georgia) before heading for our most southerly base at Halley. Getting to Halley is never easy at the beginning of the season as the sea ice is still present and

Ernest Shackleton conducts experiments and research in Antarctic waters.

often the vessel routes via the South Sandwich Islands (and before you all write asking to work me from there, we do not stop!) before making our approach from the east. If all has gone well the ship will be tied up to fast ice (floating ice that is attached to the main ice shelf) just before Christmas and the discharge of cargo then commences, which normally takes about ten days.

Once the discharge is complete, then the loading of cargo from the base for the UK commences and normally by the first few days of January the vessel is heading back to the Falklands, via Signy and perhaps South Georgia.

A second run is made to Halley and the vessel will leave the base for the last time in the season towards the end of February. Then follows a hectic month as we dash around the bases, including our only visit to Rothera, before heading back to the UK towards the end of April.

As there is only one Radio Officer working onboard the ship at any one time, I can pick and choose my working hours, and this means that I can pop up on the bands at any time of the day. The real restriction is my workload, and often just as I am getting into the swing of working a band, someone will come along requiring help or a piece of navigational equipment will need fixing. This then means suddenly going QRT, which is always frustrating.

The equipment onboard the ship comprises two 800w Skanti TRP8757 transceivers for the HF bands. Currently I tend to mainly operate CW (as I just find it easier) and my normal operating frequencies are: 10122, 14052, 21052 kHz and I do try and get on in the evenings from about 2000Z.

If you wish to listen for any of the British ships or bases, then try the following: 9106, 11055 and 14915 kHz.

For further information on my operating look at: www.qsl.net/gm0hcq and for information about the British Antarctic Survey try: www.antartica.ac.uk. For a good historical background to polar explorers then look at: www.south-pole.com.

David Splitt, KE3VV

The rules of contesting

Whenever I think of rules that frustrate me (and a lot of other Hams), my RF-singed brain does not necessarily focus on the FCC and its rulemaking progeny. No, the FCC actually does a pretty good job of writing and promulgating rules, even though it may take some "technical amendments" (read: "clean-up") to get the language precisely right. On the other hand, some of the rules that the Amateur Radio community foists off on itself run the gamut from untended fallow fields to soil that is constantly being turned over (notice how the metaphor never strays far from the back of the horse?).

I enjoy contesting a lot. I don't own a lot of equipment that could be described as a full-blown contesting station, but I have a lot of fun with 100 watts and a multi-band vertical. With limited electronic resources, I probably tend to enjoy CW contesting a bit more simply because there is faster action and (in my humble opinion), technique counts for more than sheer power and top-end gear. Contests present a myriad of frustrations aside from any contest rules, not the least of which is the behavior of contesters and non-combatants alike. These are the "Unwritten Rules" of contesting and I am sure we have all run into a number of instances where these rules are strictly followed.

Unwritten rules

The first Unwritten Rule of contesting is that bandwidth counts. Territory is claimed by the big guns and what is left goes to the rest of us. A contest station with a good antenna farm and a few thousand watts of radiated power can camp in the middle of 5 kilocycles of bandwidth and run contacts unmolested for as many hours as his endurance lasts. It seems like no one turns down the processing when the call is "CQ test." That is another reason to love the CW action, because even the big Kahunas can do their thing without monopolizing the majority of the available frequencies. I am sure that any rules that tried to restrict the Lightbulb Dimming Denizens to a portion of each band (or set up a low power preserve where amps were not allowed) would be hard to sell to the big ponies in the contest corral.

Another Unwritten Rule of contesting is — Time is Relative. I have a lovely computer program that retrieves the atomic clock time from NIST (the National Institute for Standards and Technology in Gaithersburg, Maryland) and adjusts my computer clock. I know when a contest starts and ends to the cesium-generated nanosecond. The start of the contest appears like magic on the computer screen and (for most contests, anyway) when the 00:00 Zulu pops up in the logging program, the action ends. There are also short

Amateur Radio Call Signs

The following shows the last call sign in each group to be assigned for each VE Region under the sequential call system as of 20 August 2001.

For more information about the sequential call sign system, see Fact Sheet PR5000 #206-S dated August 1996 or contact the Federal Communications Commission, Consumer Assistance Branch, 1270 Fairfield Road, Gettysburg, PA 17325-7245, toll free 888/225-5322

District	Group C Technician	Group B General	Group A Am Extra
Ø	KCØLFN	++	ABØRU
1	KB1HCQ	++	AA1YU
2	KC2IJM	++	AB2MR
3	KB3GZG	++	AA3XL
4	KG4OWL	++	AG4KG
5	KD5PMS	++	AD5FE
6	KG6HPR	++	AD6ZC
7	KD7OEG	++	AC7OL
8	KC8SBG	++	AB8LM
9	KB9ADR	++	AB9CV
N. Marianas	KHØNM	++	++
Guam	KH2VN	++	++
Hawaii	NH7FX	++	AH6RM
American Samoa	KH8DO	++	AH8W
Alaska	KL1DZ	++	++
Virgin Island	NP2LT	++	++
Puerto Rico	WP3LP	++	WP3T

++ All calls in this group have been assigned

Very Important Notice!!

If you received this copy of ***Worldradio*** and you're not a regular subscriber, this was your free sample copy. We sent it to you so you could see all the news, features and columns in ***Worldradio*** .

You are cordially invited to join in with all the other active Amateur Radio operators by subscribing.

Worldradio is two-way communication. Send in your news, information and letters.

Your comments and suggestions are most welcome.

Amateur Radio is a very rewarding activity and ***Worldradio*** hopes to reflect that.

NEWS:
2120 28th St.
Sacramento, CA 95818
(916) 457-3655
Fax: (916) 457-7339
n6wr@ns.net

SUBSCRIPTIONS:
2224 Beaumont St. Ste. D
Sacramento, CA 95815
(877) 472-8643
(8 a.m.-5 p.m. PT, M-F)
Fax: (916) 920-1015
subscribe@wr6wr.com

Name_____ **Call**_____

Address_____

City_____

State_____ **ZIP**_____

❒ **New** ❒ **Renewal** ❒ **Gift**

12 issues	**(only $1.25 per issue)**	**$14.79***
24 issues	**($1.16 per issue • save $2)**	**$27.79***
36 issues	**($1.14 per issue • save $4)**	**$40.79***
Lifetime	**(Be a WR super booster)**	**$186.79***

*(non-U.S. ZIP: 1 year, $24.79 — 2 years, $47.79 — 3 years, $70.79 — Lifetime, $286.79)

We gratefully accept U.S. Funds drawn on U.S. Banks, International Money Orders, Canadian Postal Money Orders (in U.S. Funds), or you can charge your subscription.

❒ Check enclosed ❒ VISA ❒ MasterCard ❒ AmEx

Card#_____ Exp.date _____

Signature_____

Please clip (*photocopies o.k.*) and mail to:

Worldradio

2224 Beaumont St., Ste. D • Sacramento, CA 95815
For charge subscriptions only, call TOLL FREE: (877) 472-8643 weekdays, 8 a.m. to 5 p.m. Pacific time.

Thank you!

wave transmissions, such as WWV, that convey the same information in real time audio to the whole world. Nevertheless, I always hear a few stations calling early (which might be explained as establishing turf... "I don't count the QSO's until the green flag falls...") and more than a few calling or making contacts after the last tick has tocked. Maybe it is just the Ham Radio Contest Uncertainty Principle of Relative Time.

Rubber clocking

The general rules for ARRL contests declare that a log with 2% rubber clocking will be disqualified. I'm not sure what they mean (because the rule does not say "2% of what"), but if it is 2% of contacts and a station makes 500 contacts, that would be 10 contacts outside of the time frame. If it means 2% of the total time, that would allow even more stretching of the time constraints. In any event, I'll bet the practice would cease if the contest sponsors simply announced in their rules that the beginning and end of the contest period would be determined by the WWV or other standard clocks, that the contest sponsors would be monitoring the bands at each end of the contest, and that any station heard calling or contacting any other station before or after the time period would be disqualified. Of course, the chance of getting caught might be somewhat random, but the threat of summary disqualification with no fudge factor would probably work pretty well. Actually, speaking of the ARRL, despite my earlier comment about the vagueness of the 2% rubber clocking rule, some of the best and most clearly written contest rules emanate from Newington, CT. One of the reasons I am partial to the ARRL contest rules is that, even though the ARRL includes Maryland and DC in the same ARRL Section (MDC), some of the ARRL contests that count state entities as multipliers, such as the DX and 10-meter contests, carve out Washington, DC (the District of Columbia) as a separate multiplier. As a resident of the "DC" part of the "MDC" Section, I appreciate the recognition and, believe me, it makes a lot of difference in the amount of fun I have in those contests. Of course, I am still lumped in with Maryland as "MDC" in contests that use the ARRL Section as the exchange format (such as Field Day, Sweepstakes, and the 160-meter contest), but there is hope that these contests will evolve into DC-multiplier events in the future. After all, shouldn't the Nation's Capital get the same status as West Central Florida?

CQ DC? CQ DC?

Of course, the wonderful CQWW and WPX contests don't use state/DC multipliers, so there is no need to lobby for DC with *CQ* magazine, but while we have *CQ* in the spotlight, it is only reasonable to pile on a few kudos for the clarity of their CQWW and WPX rules. I have always thought that explaining what prefixes count for what in the WPX contest was a major chore, and the explanation in the *CQ* rules is both logical and concise. Probably the toughest part of the contest rules for either ARRL or *CQ* contests is the explanation of the Cabrillo logging format.

Even in the midst of the well reasoned and clearly explained *CQ* and ARRL rules, there are always a few that leave me shaking my head. For example, the CQ WPX rules clearly state that "off" times (when the single operator is taking a break to avoid working more than 36 out of the 48 hours of the contest) musty be at least 60 minutes in length. Then there follows a rather cryptic phrase, "listening time counts as operating time." Now I understand what it means... you aren't supposed to spend part of the hours of mandatory "off" time playing SWL and gathering a list of frequencies where the multiplier goodies are lurking or performing other silent intelligence gathering chores like comparing noise levels and propagation on the various bands. OK, so that's the rule. But here is my problem....

That rule is completely unenforceable. There are two schools of thought on unenforceable rules. One point of view is that they are guidelines establishing the moral parameters of acceptable, and therefore meritorious, getcha into heaven, behavior. The other point of view is that they are useless and, in some cases, harmful. This latter point of view tends to emanate from those pragmatic types who understand

that, for many serious contesters the rules define the limits, and where those limits are vague or unenforceable, they are not really limits. This is sort of like the rubber clocking rules that try to define the gray areas between cheating and being so absorbed in the fray that the alarm bell is accidentally ignored.

Being a rogue lawyer (as opposed to lawyers who just like rules because they make lawyers rich), I tend to favor those rules that have some modest chance of being enforced or which are so grounded in common sense that they are generally followed without much Pavlov-ian encouragement. My answer to the "listening is operating" rule is pretty much literal. I shut off the rig and grab a bite to eat or a quick shower and a nap (usually all three). Maybe CQ could modify the rule a bit so that we could listen for a while and just not take notes or promise to forget all that we learned. Nah! At my age, I can use the nap-time.

CW vs. phone

If I were at all interested in stirring up some controversy I would probably launch into a discussion of those contests that allow both phone and CW contacts but almost always give at least twice as many points for a CW QSO as a SSB contact. Why is that? Is a CW QSO more difficult? I believe it is a way of spreading out the QRM. Face it. The toughest contests from a QRM standpoint are the single mode events. When some of the crowd gets funneled off onto the lower edge of the band, there is more room in the phone bands for contesters to stumble over each other, harass non-combatants trying to have a friendly chat, and find a net to tune up on.

Most multi-mode contests like state QSO parties allow more points for CW contacts, so let's just accept it for what it is. As long as I can plug it into my favorite contesting logging software program and have my score added up and my Cabrillo entry log produced, I am not gonna whine too much. No matter what kind of events you prefer, and even if you are a hard case serious nose-to-the microphone contester, you will always make a lot of friends and have some "serious" fun in a State QSO party. And that is true even if the rules are a bit vague or quirky and the results aren't published in *Worldradio*, *QST* or *CQ*. As a matter of fact, why aren't the results of State QSO parties and other contests more widely published? Maybe they don't have to put a picture of the winner and his wife and dog on the cover, but it would be nice to see a few names and scores.

— David Splitt, KE3VV, our certifiable member-of-the-bar columnist can be reached by snail mail sent to: 6111 Utah Avenue, N.W. Washington, DC 20015; or by e-mail send to: davidsplitt@erols.com

A closer look at RST

J.D. Harper K6KSR

Should a signal report of 4-3-9, which is a stretch from a perfect 5-9-9, still be considered a good report? Absolutely! And here's why...

For the past 67 years the signal report, based on the RST system, has been an essential ingredient in just about every Amateur Radio QSO, whether sideband, AM, FM or CW,

Readability, strength and, in the case of a CW signal, tone, are the components that make up a typical signal report, usually the first bit of information exchanged between stations. Yet, even after over half a century of CW there's still an unusual amount of confusion, misuse and misunderstanding revolving around this shorthand reporting method.

Part of the problem is that it's a largely subjective process — Barring the introduction of a rig with one before this goes to press, Ham radios don't as yet have RST meters, Only S-meters, And there's a lot of debate among amateurs as to whether the S-meter is of much value beyond relative power readings. So there's naturally a lot of "guesstimating"

Add to this the fact that honest and definitive reports are tough to come by, mainly because QSO participants are not entirely familiar with the breadth of RST definitions (see sidebar). As a result, we've got what should be a very definitive signal reporting system that doesn't work worth a hoot.

An honest report or a convenience?

If you work DX pileups and contests, you know that getting an honest signal report is like trying to find a Welcome Wagon in Beirut. As far as DX is concerned, everybody is a big 5-9... even if he does have to ask for fills in many of his contacts. Worse yet, if you try to deliver your best estimate of his signal's readability and strength, at anything less than a 5-9, it will most likely go down in his log, and show up on his QSL card, as a five-by-nine anyway.

Why? For simplification, speed and convenience.

So how can we hope to get anything resembling a useful signal report exchange? You can't. At least not under those circumstances. Because that DXer doesn't care whether he's 3 by 3 or 10 over at your QTH. Because the name of the game is contacts — hundreds, thousands of them. They're the Holy Grail of contests and pileups.

DXers will tell you that it's all in the interest of uniformity and in keeping with the spirit of the fast paced exchange. Everybody gets a 5-9, every contact. And for the moment you'll just have to pretend you're in Rome.

I'd suggest, however, that if we're destined to give out worthless information in an exchange, let's go with eye color, waist size or sun signs.

"You're S-9 but I can't read you..."

Let's say you get a report that indicates your readability is high. Should you be concerned over a low strength report? Probably not. Consider a report of 539 or 5 by 3. Such a report indicates that even though your signal strength is "weak," you are "perfectly readable!"

Another example of a realistic signal report: your readability is very low but your signals are strong — say a 289 or 2-8, good, strong signals that are barely readable! The reasons for such a condition might be the result of badly distorted audio, inept keying, QRM or even stronger adjacent signals.

So the key element in any signal report is not strength as much as it is readability — whether you're running a full gallon or flea-power.

Tone... chirps, clicks & AC

Referring to the quality of a CW signal, the tone rating scale runs from "very rough and broad, (T1) at the bottom end, to "perfect tone (T9) at the top. Here again, these reports are only useful if they're honest and complete.

As habit would have it though, the tone component is rarely given much attention and nearly always sails through as a "9," unless the signal sounds like a spark-gap transmitter.

If the station your chatting with is having tone troubles, AC hum, clicks or chirps, the operator would undoubtedly like to know about it. So instead of softening the bad news by ignoring the racket or dismissing it as, "it's okay, I

READABILTY
1 – Unreadable.
2 – Barely readable, occasional words distinguishable.
3 – Readable with considerable difficulty.
4 – Readable with practically no difficulty.
5 – Prefectly readable.

SIGNAL STRENGTH
1 – Faint signals, barely perceptible.
2 – Very weak signals.
3 – Weak signals.
4 – Fair signals.
5 – Fairly good signals.
6 – Good signals.
7 – Moderately strong signals.
8 – Strong signals.
9 – Extremely strong signals.

TONE
1 – Sixty-cycle ac or less, very rough and broad.
2 – Very rough ac, very harsh and broad.
3 – Rough ac tone, rectified but not filtered.
4 – Rough note, some trace of filtering.
5 – Filtered rectified ac but strongly ripple modulated
6 – Filtered tone, definite trace of ripple modulation.
7 – Near pure tone, trace of ripple modulation.
8 – Near prefect tone, slight trace of modulation.
9 – Perfect tone, no trace of ripple or modulation of any kind.

can copy fine!" tell it like it is. Unless you've hooked up with a psychopath, your honest report will be welcomed. If you do have the misfortune to latch onto a psycho, simply lie about your QTH.

How to give... and get, better signal reports

Becoming more "RST-aware" takes a little study and a commitment to offer complete and honest reports, every QSO.

Here are a few tips to help you become a "signal aRiSTocrat:"

— Learn the RST system's descriptive components so you can make more accurate judgments about a signal's readability, strength and tone.

— Try not to become S-meter dependent. As sophisticated as rigs have become, we still hear amateurs describing their meters as stingy or liberal. With a little practice you can educate your ears to provide you with an ability to offer fair and consistent strength reports. And use that S-meter as your guide to relative signal strengths.

— Remember that readability is the key factor in any QSO. And that it's possible to have weak signals that are perfectly readable and extremely strong signals that can't be copied at all. And turning up the juice in such cases is simply energy overkill.

With regard to tone — if the signal exhibits the characteristics of a crystal controlled transmitter, add an "X" to the RST. If the signal is chirpy, add a "C." And if it clicks, add a "K."

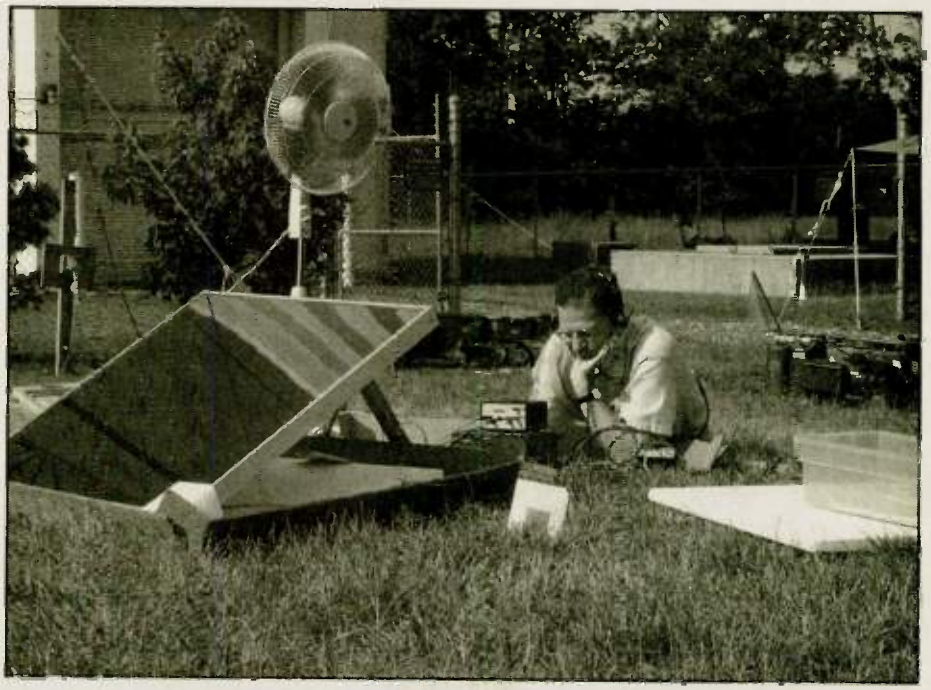
Who's on the other end of that QSO?

Amor Klotzbach, N2FY

Have you ever given much thought to that question? Sure, you know there's an operator behind the call letters of that FD station you're working. And if your QSO is on voice, you're even able to determine if that operator is male or female. CW contacts, on the other hand, do a great job of masking the gender of the other operator. So, to retain that mystery, let's stick with CW contacts on Field Day. And now, let's get back to the original question: "Who's on the other end?"

Well, for one thing, he or she is a licensed Amateur Radio operator. That much is a given. But, what about that operator? You know that operator has a personal call, one that is probably different from the call of the Field Day station you are working. So, there is another unknown. We've already considered the gender question, so it could be a YL or an OM; you just don't know. Likewise for age; old, young... without a voice by which to judge, who knows? And how about what that operator does to earn a living? Or, maybe that's no longer a consideration; you may be working a retiree. Many of the "Old-timers" still enjoy a shift at the FD operating site. There are lots of unanswered questions if you stop to think about it.

Well, this article is designed to accomplish two goals. The first is to ease the minds of those five operators who worked the K2AA solar-powered station in a recent Field Day; they might be pondering just such questions! (In reality though, I know that this is a stretch, but it tracks with the story, so please humor me on this one!) The second goal of this article is to show you just how interesting that operator on the other end of a Field Day QSO might be, if you knew more about that person.



Hams fortunate enough to make contact with the solar-powerd CW station, W2AA during the recent Field Day were actually talking to Dr. Joseph H. Taylor, Jr., K1JT — Winner of a Nobel Peace Prize in Physics.

The operator of that K2AA solar-powered FD station was Joe Taylor, K1JT. Joe and his brother Hal (who in earlier days were K2ITP and K2ITQ, respectively) used to set the VHF airways aflame in Southern New Jersey during the VHF contests back in the 1950s and 1960s. But that's another story.

There was a need for someone to operate the solar-powered rig to get the FD bonus points and that's where Joe stepped in. (Actually, he was sort of lying down on the job, as the picture shows.) OK, so K1JT has been a Ham for quite awhile. Big deal; so have a lot of other FD operators. He's a good operator and an avid contester in his own right. Still not unique, right?

Well, how about the fact that Joe is an educator; he's a physics professor at

Princeton University. Did I mention that he has a Ph.D.?

I suppose that there are readers who are comparing other individuals they know with the criteria presented so far and are saying SO? Well, I have one final little "zinger" to present which should narrow the field tremendously.

The picture at left shows Joe, K1JT, with his six-foot-plus frame stretched out on a piece of cardboard on the ground operating the K2AA solar-powered-station.

In addition to all the other notable accomplishments K1JT has achieved in his career, both amateur and professional, he is also a Nobel Prize Winner!! Yup, that's correct. Dr. Joseph H. Taylor. Jr., and Dr. Russell A. Hulse (WB2LAV) were jointly awarded the Nobel Prize in Physics.

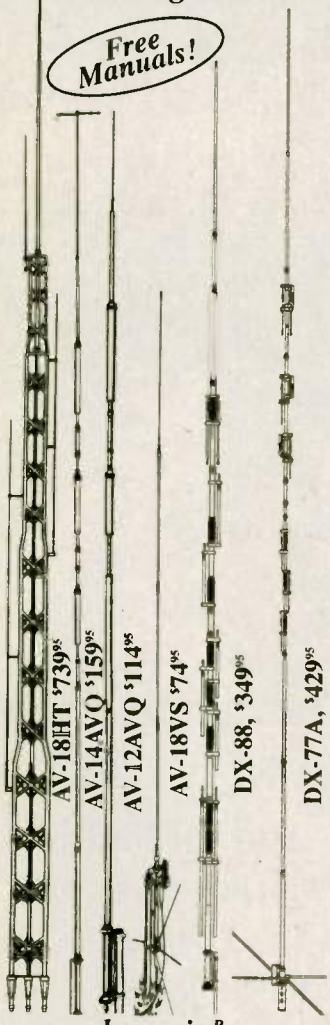
Just goes to show you... one never knows just WHO might be on the other end of that Field Day contact 😉

Don Lisle, K6IPV and Dave Bell, W6AQ, celebrating their successful operation from the Hillview Gardens Resort in Malaysia during the recent ARRL International CW contest. Shortly after this photograph was etched onto film, they sang out a medley of their greatest "hats" — their Kurt Caps, of course!

hy-gain HF VERTICALS...

Self-supporting -- no guys required . . . Remarkable DX performance -- low angle radiation, omnidirectional . . . Handles 1500 Watts . . . Low SWR . . . Automatic band switching . . . Aircraft quality aluminum tubing . . . Stainless steel hardware . . . Recessed SO-239 connector . . . Two year limited Warranty . . .

Free Manuals!



hy-gain[R] Classics

All hy-gain multi-band vertical antennas are entirely self supporting -- no guys required.

They offer remarkable DX performance with their extremely low angle of radiation and omnidirectional pattern.

All handle 1500 Watts PEP SSB, have low SWR, automatic band-switching (except AV-18VS) and include a 12-inch heavy duty mast support bracket (except AV-18HT).

Heavy duty, slotted, tapered swaged, aircraft quality aluminum tubing with full circumference compression clamps is used for radiators. Includes all stainless steel hardware. Recessed SO-239 prevents moisture damage. Hy-gain verticals go up easily with just hand tools and their cost is surprisingly low. Two year limited warranty.

AV-18HT, $739.95. (10, 12, 15, 20, 40, 80 Meters, 160 Meters optional). 53 ft., 114 lbs. **Standing** 53 feet tall, the famous *Hy-Gain HyTower* is the world's best performing vertical! The AV-18HT features automatic band selection achieved through a unique stub-decoupling system which effectively isolates various sections of the antenna so that an electrical 1/4 wavelength (or odd multiple of a 1/4 wavelength) exists on all bands.

Approximately 250 kHz bandwidth at 2:1 VSWR on 80 Meters. With the addition of a base loading coil (LC-160Q, $99.95), it also provides exceptional 160 Meter performance.

The 24 foot tower is all rugged, hot-dip galvanized steel and all hardware is iridited for corrosion resistance. Special tilt-over hinged base for easy raising and lowering.

AV-14AVQ, $159.95. (10,15,20,40 Meters). 18 ft., 9 lbs. The Hy-Gain AV-14AVQ uses the same trap design as the famous Hy-Gain Thunderbird beams. Three separate air dielectric Hy-Q traps with oversize coils give superb stability and 1/4 wave resonance on all bands. Roof mount with Hy-Gain AV-14RMQ kit, $79.95.

AV-12AVQ, $114.95. (10, 15, 20 Meters). 13 ft., 9 lbs. The AV-12AVQ also uses Thunderbird beam design air dielectric traps for extremely Hy-Q performance. This is the way to go for inexpensive tri-band performance in limited space. Roof mount with AV-14RMQ kit, $79.95.

AV-18VS, $74.95. (10,12,15,17,20,30,40,80 Meters). 18 ft., 4 lbs. High quality construction and low cost make the AV-18VS an exceptional value. Easily tuned to any band by adjusting feed point at the base loading coil. Roof mount with Hy-Gain AV-14RMQ kit, $79.95.

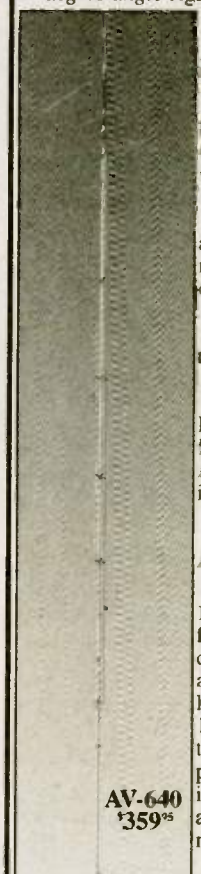
DX-88, $349.95. (10, 12, 15,17,20,30,40,80 Meters, 160 Meters optional). 25 ft., 18 lbs. All bands are *easily* tuned with the DX-88's *exclusive* adjustable capacitors. 80 and 40 Meters can even be tuned from the ground without having to lower the antenna. Super heavy-duty construction. DX-88 OPTIONS: 160 Meter add-on kit, KIT-160-88, $179.95. Ground Radial System, GRK-88, $81.95. Roof Radial System, RRK-88, $89.95.

DX-77A, $429.95. (10, 12, 15, 17, 20, 30, 40 Meters). 29 ft., 25 lbs. *No ground radials required!* Off-center-fed Windom has 55% greater bandwidth than competitive verticals. Heavy-duty tiltable base. Each band independently tunable.

Model #	Price	Bands	Max Power	Height	Weight	Wind Surv.	Rec. Mast
AV-18HT	$739.95	10,15,20,40,80	1500 W PEP	53 feet	114 pounds	75 MPH	------
AV-14AVQ	**$159.95**	**10,15,20,40**	**1500 W PEP**	**18 feet**	**9 pounds**	**80 MPH**	**1.5-1.625"**
AV-12AVQ	$114.95	10/15/20 M	1500 W PEP	13 feet	9 pounds	80 MPH	1.5-1.625"
AV-18VS	**$74.95**	**10 - 80 M**	**1500 W PEP**	**18 feet**	**4 pounds**	**80 MPH**	**1.5-1.625"**
DX-88	$349.95	10 - 40 M	1500 W PEP	25 feet	18 pounds	75 mph w/guy	1.5-1.625"
DX-77A	**$429.95**	**10 - 80 M**	**1500 W PEP**	**29 feet**	**25 pounds**	**60 mph no guys**	**1.5-1.625"**

hy-gain[R] PATRIOT

Hy-Gain's new **PATRIOT** HF verticals are the best built, best performing and best priced multiband verticals available today. For exciting DX make full use of your sunspot cycle with the **PATRIOT's** *low 17 degree angle* signal.



No ground or radials needed
Effective counterpoise replaces radials and ground.

Automatic bandswitching
Single coax cable feed. Each band is individually tunable. Extra wide VSWR bandwidth. End fed with broadband matching unit.

Sleek and low-profile
Low 2.5 sq. ft. wind surface area. Small area required for mounting. Mounts easily on decks, roofs and patios.

Full legal limit
Handles 1500 Watts key down continuous for two minutes.

Built-to-last
High wind survival of 80 mph. Broadband matching unit made from all *Teflon*[R] insulated wire. Aircraft quality aluminum tubing, stainless steel hardware.

hy-gain[R] warranty
Two year limited warranty. All replacement parts in stock.

AV-640, $359.95. (6,10,12, 15,17,20,30,40 Meters). 25.5 ft., 17.5 lbs. The AV-640 uses quarter wave stubs on 6, 10, 12 and 17 meters and efficient end loading coil and capacity hats on 15, 20, 30 and 40 meters -- no traps. Resonators are placed in parallel not in series. End loading of the lower HF bands allows efficient operation with a manageable antenna height.

AV-620, $269.95. (6,10,12,15,17,20 Meters). 22.5 ft., 10.5 lbs. The AV-620 covers all bands 6 through 20 Meters with no traps. no coils, no radials yielding an uncompromised signal across all bands.

Free Hy-Gain Catalog
and Nearest Dealer . . . 800-973-6572
Call your dealer for your best price!

hy-gain

Antennas, Rotators & Towers
308 Industrial Park Road, Starkville, MS 39759 USA
Toll-free Customer Sales Hotline: 800-973-6572
• TECH: 662-323-9538 **• FAX:** 662-323-6551
http://www.hy-gain.com

Prices and specifications subject to change without notice or obligation. Hy-Gain®, 2001.

MFJ *Sound Card-to-Rig* Interface

Use sound card and rig for all digital modes!

Plug and Play! Includes software, audio cables, power plug . . . RFI-proof . . . Isolation transformers -- no hum, noise, distortion . . . Operate PSK-31, packet, APRS, AMTOR, RTTY, SSTV, CW, Meteor Scatter, others . . . Use as Voice Keyer, CW Contest Memory Keyer

New!

MFJ-1275/MFJ-1275M

$89.95

Plug this new MFJ-1275 sound card interface between your transceiver and computer and enjoy operating all digital modes.

Everything you need is included -- software, audio cables and power plug.

The MFJ-1275 provides fully automatic operation with audio and push-to-talk control. It matches sound card audio, eliminates ground loops and provides microphone override.

Works with all transceivers with 8-pin round or modular microphone plugs.

Operate PSK-31, packet, APRS, AMTOR, RTTY, SSTV, CW, high speed CW Meteor Scatter and many others. Also use as Contest Voice Keyer and CW Contest Memory Keyer.

Digital Modes or Normal Operation

Choose digital modes or normal transceiver/computer operation with the push of a switch.

Selecting the ON digital mode, all connections are made between your rig and computer for instant digital operation.

In the BYPASS normal mode, your transceiver and computer connections are restored for their normal operation.

Audio Isolation Transformers

Audio isolation transformers and relay eliminate ground loops, audio hum, noise and distortion.

RFI-Proof

Extensive RF suppression and line isolation eliminates RF feedback problems.

Automatic Microphone Override

You can override any digital mode and transmit microphone audio at any time by pressing mic PTT -- great for SSTV and Contest Voice Keyer operation.

More Impressive Features

Serial port -- lets computer control your radio to override and/or interrupt digital transmissions.

VOX Control -- lets you use automatic VOX control when not using computer serial port control.

Level Controls -- for transmitter drive and for receiver-to-sound card drive level. No need to adjust microphone gain or sound card level when you change modes.

Stereo or Mono Audio Input -- A front panel switch selects left, right, or both sound card audio output channels to accommodate various programs.

Off-the-air recording -- for replaying or for use with spectrum analyzer programs.

Speaker on/off switch lets you hear receiver audio when you want it.

Rugged Construction -- All aluminum cabinet and surface-mount construction gives you years of trouble-free service.

Use any Transceiver with 8-pin Mic

Internal jumpers program microphone wiring for any brand or model radio -- no soldering required. Order **MFJ-1275** for 8-pin *round* mic plug. Order **MFJ-1275M** for 8-pin *modular* mic (RJ45) plug.

Everything you need is included

MFJ-1275/MFJ-1275M includes audio cables, power plug and a CD with a collection of the most popular amateur radio software to operate PSK-31, RTTY, SSTV, PACKET, AMTOR, CW, HSCW Meteor Scatter, Contest Voice Keying and other modes. Uses 12 VDC or 110 VAC with optional adapter (**MFJ-1312B, $14.95**).

No Matter What™ Warranty

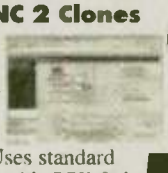
Protected by MFJ's famous *No Matter What™* one year limited warranty. MFJ will repair or replace (at our option) your MFJ-1275/MFJ-1275M *no matter what* for one full year.

Try it for 30 Days

Order from MFJ and try it -- no obligation. If not delighted, return it within 30 days for refund less shipping.

Operate PSK-31 with your MFJ-1278, MFJ/TAPR TNC 2 Clones

MultiCommHost™ for MFJ-1278 Multimode TNCs. **MFJ-1289H, $79.95.** Supports all packet, HF modes. *Adds PSK-31.* 32-bit host mode runs under Windows 95,98,Me,NT,2000,XP™. Syncs with popular logging programs. Toolbar. Hotkeys, user defined macros, quick connects, receiver buffer, more!



MultiCommHost™ for packet only. **MFJ-1284H, $49.95.** 32-bit packet terminal software gives you true multi-tasking in Windows 95,98,Me,NT,2000,XP™. Uses standard Windows commands. *Also adds PSK-31!*

Download free MFJ-1289H/MFJ-1284H demos
http://www.cssincorp.com/multicommhost
Call 800-647-1800 to order activation key.

Free MFJ Catalog
and Nearest Dealer . . . 800-647-1800

http://www.mfjenterprises.com

• 1 Year *No Matter What™* warranty • 30 day money back guarantee (less s/h) on orders direct from MFJ

MFJ ENTERPRISES, INC.
300 Industrial Pk Rd, Starkville, MS 39759 **PH:** (662) 323-5869
Tech Help: (662) 323-0549
FAX:(662)323-6551 8-4:30 CST, Mon-Fri *Add shipping.*
Prices and specifications subject to change. © 2001 MFJ Enterprises, Inc.

MFJ . . . the world leader in ham radio accessories!

Southern California's incredible DXers of the Year

Harvey Laidman, W8DX

At the International DX Convention, held in Visalia, California in April, 2001, the Southern California DX Club, for the first time in its history, presented a double DXer of the Year award to Carl and Cathy Gardenias, WU6D and K6VC. This is their story.

By the time Carl Gardenias, WU6D, had become president of the Southern California DX Club in 1990, he had easily qualified for the DXer of the Year award. But Carl didn't wear his accomplishments like medals. "I think it puts newcomers off," he said. He stopped plastering the count on his DXCC pin at 313.

In 1991, Carl retired from a productive and busy 24 year career in the Air Force. "Because my job was so sensitive, I could never travel abroad," Carl recalled, "I decided to go around the world." Heading West, Carl hopped from Korea to China, to Thailand to Turkey, to Europe and various stops along the way. He met other Hams and even operated from some locations. But when he returned, his world had come apart, and he began a ten-year journey of depressing lows, and euphoric highs, culminating in an honor for Cathy and him that is more deserved than the Southern California DX club could ever imagine. It is a story of love, dedication, selflessness and determination.

Carl's presidency and his career had ended. There were financial problems and he found it difficult to find work with a resume confined to the military. "I went into survival mode," Carl says. He lost interest in radio, and struggled to make a living. He stretched his financial means to go back to school and study project management.

Cathy's sister wanted to go to the Country and Western Club to dance. Cathy agreed, but she was shy, would only line dance. Until she saw Carl: "He was cute and he could really do the two-step," she recalls. "On our second date," Carl remembers, "it was raining and Cathy jumped right into a puddle. I knew she was something special." Though Cathy's ex-husband had obtained a tech license, neither Carl nor Cathy was aware of the otherís experiences in radio.

They drove many hours to and from the DX club meetings. "It was quality time,'" says Carl. They bonded and talked and listened to the Motley Fools. Cathy became interested in radio, but getting KF6LFB on the air had to wait until the finances fell in line. Carl's equipment and tower were at his ex-wife's house down the street. At one meeting, Cathy told Dan Magro, W7RF, that she wanted to get on the air. "Why don't you put up a vertical?," Dan asked, "And tell Carl to go down the street and get his equipment!" "It was a question of wants and needs." Carl said sadly.

The next weekend, Cathy went to Las Vegas and won $265.00. "I called Dan and said, bring on that vertical!" Cathy remembers. Carl headed down the street with a wheelbarrow, and brought his equipment home to Cathy. Her enthusiasm was drawing Carl out of his sadness. Cathy is active and athletic, a long-distance (150 miles) bicycle rider. She has always been in the medical field, in the front line, interacting with patients. She has seen Carl turn his career around, and settle into a successful position at UC Irvine. She inspired Carl, now he inspired her: "I'm taking a risk, starting a new career, graphic design," says Cathy.

Cathy did so well with the vertical, that Carl dug up two Rohn tower sections and planted them in a wheel hub against the house. John, N7CQQ donated the top section. "He drove all the way out here to deliver it," Carl said, a bit misty. Carl went to work cleaning Skip, KJ6Y's yard in exchange for a KT34A antenna. "He was the best yard cleaner I ever had," Skip says, "He worked and worked and then jumped in the pool."

Cathy needed to upgrade in order to work serious DX. Rich Bongeorno, W6VX encouraged Cathy to practice code every day. At the 2000 DX Convention, Cathy won the grand prize, a Yaesu FT-1000D. "It was the icing on the cake," says Herb Rosenberg, KG6OK, "she also won the Clipperton (Newcomer of the year) award that year." Herb guided Cathy through

Carl and Cathy with the FT1000D Cathy won at the DX convention in 2000.

the intricacies of the DX cluster and logging programs. Cathy, now K6VC, worked 100 countries in the 1999 DX contest. Meanwhile, Carl gently encouraged her and soaked up her excitement. "When she finally worked her 200th country, we could get away for the weekend," Carl said. "They joined our RV group, the Lovin' Levelers on the weekends," Harvey and Susie Shore, K6EXO and AD6SU report.

The Gardenias share a talent for mediation, organization and human relations. It has helped them to serve the needs of the DX club and the convention committee. They are committed members of the Citrus Belt Amateur Radio Club, and they worked with Patton State Hospital to set up a dedicated emergency communications center. When Carl speaks of helping a newcomer, thereís a gleam in his eye. Carl was licensed as WN6RMN in 1976. "I joined the DX club in the early 80's because I heard guys talk about it on the air," he recalls, "I wanted to meet those guys."

Here is a true partnership that overcame the bad times and turned setbacks into opportunities. The DXer of the year award may exemplify their DX accomplishments, but underneath, it glows with the light they shine on their lives and the lives of others.

100 Nations Award

In an effort to encourage personal communications among peoples around the world via Amateur Radio, ***Worldradio*** offers the Worked 100 Nations Award to those confirming two-way amateur communications with permanent stations in 100 distinct countries having a permanent, native population.

The purpose of the Worked 100 Nations Award is to demonstrate the unique opportunity Amateur Radio offers for communications between international borders to further worldwide understanding.

The W100N is not a radio sport award as such, but a token of achievement in communication. At the same time, it offers all Amateur Radio enthusiasts several features not found in other awards.

1. W100N virtually eliminates the need to work geographic areas heard only during DXpeditions. Almost all national entities have amateur stations consistently on the air.

2. W100N, then, will be of perennial interest. The advantage to those stations having worked a national entity long absent from the air will be minimal.

3. W100N is difficult to achieve, yet is within reach of all moderately well-equipped stations whose operators utilize good communication skills.

Rules

1. The Worked 100 Nations Award is available to any licensed Amateur Radio operator who can prove confirmation of two-way communications with government-authorized Amateur Radio stations in at least 100 different nations of the world.

2. No contacts with stations using reciprocal calls will count toward this award, such as N6JM/UL7.

3. All contacts must be with land-based stations. Contacts with ships, at anchor or otherwise, and aircraft cannot be considered.

4. All contacts shall be made from the same country.

5. Only contacts made on or after 01 January 1978 will count.

6. The application shall include the following:

a. Letter requesting W100N.

b. List of contacts in alphabetical order by prefix showing nation, station call, date, band and mode.

c. A signed statement by two other licensed radio amateurs, General class or above that they have inspected the required QSL cards.

d. A fee of $5 to cover the cost of the award.

7. All applications and requests shall be addressed to:

W100N Award Manager
Worldradio
2120 28th Street
Sacramento, CA 95818

8. There are no special endorsements to this award; however, endorsements may be made if the achievement bears such recognition. All modes and bands may be used.

Upon approval of an application for W100N, a certificate will be issued and the issuance of the award will be noted in a future issue of ***Worldradio***.

Silent Keys

George Veraldo, WB2BAU

George Veraldo, WB2BAU, of Norwood, New York, died 9 August Veraldo was the first Northern New York Section Manager and was serving as Affiliated Club Coordinator for the section at his death. "George was always ready to step up to help the section," said current NNY SM Tom Dick, KF2GC. Veraldo is survived by his wife Pat, WB2CRY. — *KF2GC, ARRL Letter*

William Sprague, WA6CRN

William Sprague, WA6CRN, of Whittier, California, died 14 July. Sprague was a founding member and long-time secretary of the Medical Amateur Radio Council. He also was a member of the ARRL A-1 Operator Club. A recent edition of the MARCO newsletter cited Sprague as "one of its true giants" and a man "beloved and respected by all who knew him." — *ARRL Letter*

John McFadzean, W6TRP

Avid musician and engineer John McFadzean, W6TRP, of Bakersfield, California died 31 July. He graduated from Exeter High School in 1941 and continued his studies at Fresno State College and the University of Southern California Engineering school, graduating in 1950.

John was a veteran having served in the U.S. Marine Corps as a radio communications technician during WWII in the Pacific. After the war, John was employed by Pacific Gas and Electric to 35 years around the Fresno, California area — retiring as a senior power engineer in 1985.

As a teenager, John began playing the acoustic string bass and was a very well know bass player in the jazz and big band scene. In addition to music, his interests were Amateur Radio, motorcycle riding and collecting and restoring antique radio equipment.

During his Amateur Radio Career, Mr. McFadzean served as the Pacific Division director, emergence coordinator for ARES and was president of the Kern County Central Valley ARC. He was also a member of the Bakersfield Amateur Radio Association. — *KA6MSR*

Donald "Rusty" Crooks, KD5SY

A disaster volunteer and veteran member of the New Mexico Disaster Medical Assistance Team, Rusty Crooks, KD5SY, of Ramah, New Mexico, died 5 June. He became involved with the disaster team 16 years ago and spent much of his time providing communications for the team. A World War II veteran who served in the airborne infantry, he made four combat drops during the war, including during the Allied D-day invasion in 1944. "Rusty ran a two-hour net on the linked 146.94 and 146.64 repeaters, which covered about half of our state — he called it 'Rusty's Raiders' and always had at least 30 to 40 check-ins each day," said New Mexico Section Manager Joe Knight, W5PDY. In addition to his DMAT work, Crooks also once served as an ARES Emergency Coordinator. Crooks had celebrated his 80th birthday by parachuting from an airplane; he'd planned another jump for his 81st earlier this year, but was too ill, according to his wife, Winnie, KB5PQX. — *ARRL Letter*

James E. "Jake" McHendrix, WD4PBF

Jake McHendrix, WD4PBF, of Florence, Kentucky died 11 July. McHendrix retired in April as Boone County Emergency Coordinator after 23 years of service. "Jake was a loyal and dedicated Amateur Radio operator and he will be missed greatly by all of us who were lucky enough to call him friend," said ARRL Great Lakes Division Vice Director Gary Johnston, KI4LA. — *ARRL Letter*

Letters to the Editor

Threat to Amateur Radio...

In a recent FM & Repeaters column (July 2001), Bill Pasternak, WA6ITF, recently addressed what could be the greatest underestimated threat to both our spectrum privileges and Amateur Radio itself. In the article, "FCC creates new disaster communications system," it tells how the FCC intends to create thirty-two radio channels that public safety officials would use to communicate between various nationwide agencies directly.

This, in essence, is designed to remove third party relayers — Amateur Radio operators.

In Part 97 Subpart A – General Provisions §97.1 (Basis and purpose) the FIRST item listed is as follows:"(a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications."

To that end, RACES (Radio Amateur Civil Emergency Service) is provided for by FCC regulations (§97.407).

The FCC, by creating and implementing this new 32-channel inter-service communications system, will ELIMINATE Amateur Radio's PRIMARY reason for existence.

I realize that one of the greatest ongoing debates is whether Ham radio is a service or a hobby. Well, as I see it, Amateur Radio is (in accordance with FCC regulations) a SERVICE that, to our advantage, has a hobby side.

You might ask, "Why does it matter whether it's referred to as a hobby or a service?" My answer is simple. A SERVICE is publicly viewed as VITAL and a hobby is seen as JUST a hobby. A hobby, in the public's eye, is done SOLELY for fun and is of no enduring value to society as a whole.

This new 32-channel system, besides being potentially detrimental to Amateur Radio, will require personnel and additional equipment.

The additional equipment will require repair and maintenance and personnel will require training to properly operate and maintain the added equipment. All of these things will cost the taxpayers millions of dollars by the time it's fully implemented (tentatively by 2006).

Why 2006? The spectrum that the government intends to use for this system is currently used by broadcasters operating analog UHF TV stations between channels 60 through 69. The government has to first get broadcasters off the frequencies so that reallocation can commence.

A far less expensive alternative to this would be for the U.S. government to openly endorse Amateur Radio.

What are the advantages to endorsing Amateur Radio?

Amateurs are self-trained — no additional taxes for training.

Equipment is amateur owned & operated — no need for added equipment. Equipment maintained by the operators — not taxpayer money.

Citizens get involved — no increase in taxes for services.

No waiting until 2006 — amateurs are here NOW!

I urge EVERY amateur — ESPECIALLY those involved in public service (NTS, ARES, RACES) to write a letter urging your public officials to REJECT the new FCC decision and to affirm their support of Amateur Radio.

Which public officials would I suggest sending letters to? Whether by mail or e-mail, I would suggest writing the following:

Senators
Representatives
Governor
FCC (FCC Chairman Michael K. Powell)
President George W. Bush
Vice-President Dick Cheney
First Lady Laura Bush
Mrs. Lynn Cheney

Take a moment to write each of the above. Ask them to REJECT the proposed 32-channel inter-service communication system and to fully affirm their support for the use of Amateur Radio instead.

It's economical & it makes good sense.

Scott Verity, KC2FBV
Massapequa Park, NY

I .52...

The article by J.D. Harper, K6KSR, "I .52-do you?" is great advice for the FM crowd. Instead of hanging out with the clique groups on the repeaters, more people should try 146.52. You will be amazed at how far you can work without repeaters.

I have been involved with FM on 2 Meters since 1969. Back then, the names Inoue (ICOM), Yaesu, and Kenwood were unheard of in this country. FM rigs bore such names as Progress Line and "pre-Prog" (GE), Motrac (Motorola), and Carfone (RCA), as many of us converted surplus land mobile radios to the amateur band. The original FM calling frequency on 2 Meters was 146.94 Mc (at the time, Hertz was a car rental company). It was used for simplex in some areas and became a repeater output in others. 146.76 was also used for this purpose in some areas, much as 146.55 and 146.58 are today.

There is one error in the article. Unlike the case of CB, where the FCC had designated 27.065 MHz (channel 9) as an emergency channel and 27.085 MHz (channel 11) as a calling channel (no longer reserved), 146.52 MHz was never designated as the 2-meter national calling/simplex frequency by the FCC. 146.52 came into widespread use as a simplex frequency when .76 and .94 began filling up with repeaters. This happened before the ARRL got into the act and began setting up its bandplan for 2 Meters. The designation of 146.52 MHz as the national calling frequency is in the ARRL bandplan, but it does not exist anywhere in Part 97. The FCC did set aside subbands within the 2-meter band for CW (144.0-144.1) and repeaters (144.5-145.5 and 146-148 MHz), but the Commission never designated any spot frequencies for specific purposes.

Phil Galasso, K2PG
West Creek, NJ

•

Just imagine that you are alone on a long trip on unfamiliar roads, you have been grazed by a large truck and they did not stop to help. You are in a ditch and your door is jammed, the other door is blocked by the ditch, the window is jammed and you think you smell gas.

After gaining your composure you see your trusty 2-meter microphone laying near you and think, "I do not know local

repeater frequency or tones" (probably used). So you say, "AHA! 146.52 simplex." You manage to step your rig to .52 and after several frantic calls you are answered by a kind, alert Ham who calls 911 and says later that help is on the way. This story has a happy ending because the local Ham was scanning .52. Do you?

The CB guys have channel 9, aviation has 121.5 and 243.0, maritime has channel 16 (156.8 MHz).

We Hams should be true to our avowed purpose of emergency service and do .52 and remember also to take long listening pauses when using it in case a breaker needs it and keep nets to a minimum.

Paul W. Minor, AAØXG
Rocky Mount, MO

•

I am responding to the article in your August issue titled 'I .52 - do you?' by J.D. Harper, K6KSR. I agree completely with Mr. Harper that 146.520 has been abandoned — however for me, it is too late. I invested in a dual-band mobile rig that I installed in my last truck. Recently, I purchased a new van and have no intention of installing my mobile rig in it. Instead, I have installed (dare I say) a CB radio. Why? Because I spent three years trying to get local/traffic information on .52 and what did I find? Nothing! Absolutely nothing. With just the push of a button I can talk on channel 19, anytime of the day or night, and get the information I need — every time. With a cell phone and a CB, I've got it covered.

Now some of you may say but if you're out of cell phone range and your CB can't get out, you need that 50 watt 2-meter rig to get some help. I say, yes I do - IF ANYONE WERE LISTENING. I'm talking, are you listening? I'm not completely lost, though — as I write this, I'm listening to .52.

Matt Gilbert, K8KDR
Columbus, OH

Clear Speech Base review...

After reading your article in ***World-Radio*** July/01 I ordered a CLEAR SPEECH SPEAKER. How you could endorse a DSP for digital modes that also contains a heterodyne elimination circuit, that can't be switched out for digital modes, escapes me. The DSP function is good, but the W9GR program that he put in his early kit was better for eliminating noise and of course, like every Ham DSP I have seen, you can disable the Heterodyne eliminator.

Please see my attached e-mail to Am-Com. They told me to return it for a refund.

Dear Sir,

I recently purchased a Clear Speech Speaker DSP and was extremely disappointed to discover it is impossible to disable the auto tone reduction circuit.

Whoever built this box should take a good look at the other DSP units on the market and note that the heterodyne elimination circuits are switched out for CW and other digital modes.

This unit is unusable on CW because the continuous auto tone reduction continuously chews up the CW sidetone that one uses to listen to his CW sending.

Otherwise I am very pleased with the unit and I would appreciate your advising me how to disable the single tone elimination circuit so I can use the unit on CW, RTTY etc. Prior to ordering this unit I asked how it could possibly work on CW with the tone elimination circuit enabled and was told that with certain code speeds it would not work. In my case those speeds range from zero to 70 wpm.

If it is not possible to disable this circuit I will return the unit for a refund.

Bryce A. Carr, KH6AT
Hilo, HI

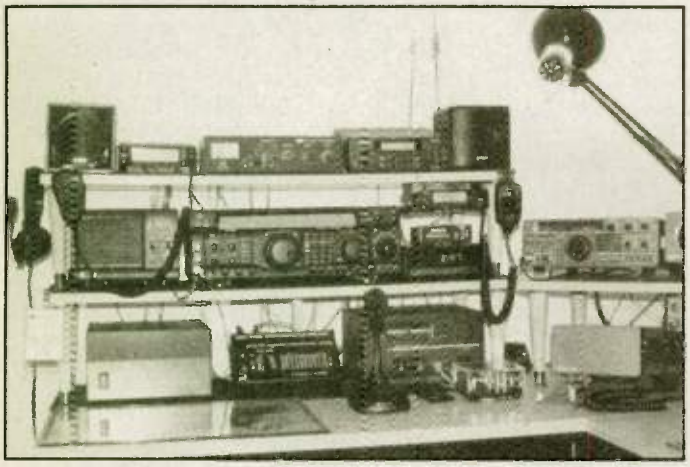
(Ed. So, you were told by the manufacturer that the unit may not work, but you decided to take the chance, anyway. The unit arrives, it performs as specified, but doesn't allow you to hear your sidetone, like they mentioned. I'm a little confused about your disappointment with the unit — did they try to deceive you when they told you it may not work?

Let me explain the product reviews we do here at **Worldradio** *for our readers. We don't have a lab or technicians who can check out every last detail of products. We don't solicit products for review. We sometimes get calls from manufacturers or distributors of products for Amateur Radio. If they want a fancy, scientific review of their product, I'll refer them to the ARRL. If we happen to see a product at a hamfest we are interested in, one of us will purchase it and put it to normal use. Then we can tell you either the product is good, or bad – based on actually using the product. Armond purchased the Clear Speech Base (not the speaker model) and was quite pleased with its performance in the operating he does. That doesn't necessarily mean it will be a great product for each and every mode.*

Before any Ham spends his/her hard-earned money on a new product, it is in the best interest of all concerned to ask questions about the product with your friends and fellow club members. You'll get a fair and accurate opinion of their experience. And, they'll probably let you play with it so you can test the unit yourself. But consider this — you were treated fairly by the manufacturer. They offered a full refund because you were not happy with the product. It could have resulted in a different outcome – they could have told you to forget it, you bought it and now it's yours.)

Station Appearance

Send **Worldradio** *a picture of your shack and the staff will choose a winner to receive a free one-year subscription to* **Worldradio**! *Stations are judged by neatness (wires tucked away, etc.) and accessibility of equipment. Value of equipment is not a consideration.*



Nathan Ciufo, KA3MTT

Here is my submission for the Station Appearance section of *Worldradio*.

On the upper left is a Yaesu FT-8100 dual band transceiver, MFJ tuner for an HF dipole antenna and a Trunk Tracker scanner. In the middle row is a Yaesu FT-920 HF transceiver. This is my primary HF radio which I only use for SSB and CW. Next to it is an Icom IC-207H dual-band transciever, which I use mostly for the LEO satellites. Below it is a 70cm pre-amp, and below that is a Heathkit clock which I built when I was 11 years old. Immediately to the right is a Kenwood TS-430S HF radio. This is my secondary HF radio used only for PSK31, RTTY, SSTV, MFSK and other digital modes. On the bottom are three power supplies and a W2IHY audio equalizer and noise gate.

Special Events

Pacificon/Boy Scout Jamboree

The Mount Diablo ARC will be operating special event station W6CX during the annual Pacificon Amateur Radio convention. The convention also takes place during the annual Boy Scout Jamboree, so the club will be using Boy Scouts as operators during the event. The Convention/Jamboree will be on the air 19-21 October using SSB on 14.290, 21.360 and 28.390 MHz. Certificates are available by sending your QSL and an SASE to MDARC, P.O. Box 23222, Pleasant Hill, CA 94523.

U.S. Coast Guard Auxiliary Anniversary

The Amateur Radio operators who are members of the U.S. Coast Guard Auxiliary will be celebrating the 62nd anniversary of the founding of the Auxiliary with several special event stations on the air from Coast Guard bases around the U.S. The event will take place on 20 October 2001 from 1400-2200Z and will be in the General Class portions of 40, 20, 15 and 10 Meters. SSB and CW will be used. Special call signs K1G, K2G, K3G, K5G and K9G will be used. A commemorative QSL will be issued for contacts with any or all of these stations.

85th Anniversary

Members of the Radio Club of Tacoma, W7DK, will be operating special event station W7K from 0000 UTC, 20 Oct. to 0000 UTC, 22 Oct to celebrate the 85th anniversary of the club. A handsome certificate will be available to the amateur in each state and in each country who works the greatest number of club members. A special QSL card will also be available. Send your list to: The Radio Club of Tacoma, P. O. Box 11188, Tacoma, WA 98411 by 30 Nov. 2001. Suggested frequencies are the low end of each General Class sub-band. For details, go to *http://www.w7dk.org*.

Nowhere

The Iowa Radiosport Society will be on the air with special event station WØFUN from Nowhere! (Illinois), from 1500-2000Z 13 October 2001. Frequencies are 7.234 and 14.243 MHz. Certificates are available by sending your QSL and an SASE to Iowa Radiosport Society, P.O. Box 73, Denmark, IA 52624-0073.

John F.W. Minke, III, N6JM

People's Democratic Republic of Congo (9Q)

The Amateur Radio Association of the Democratic Republic of Congo (DRC) was able to get special permission to operate ARAC headquarter club station 9QØAR during the IARU HF Championship. The license was issued on 12 July 2001 and was valid for 10 days, according to *The Daily DX*.

Amateur Radio had been suspended for several years and this could be the starting point for permanent activity. The team started on 13 July with an FT-990 and an AL1500 running into an HF6V on 10, 15 and 20 Meters. The purpose of the operation was to demonstrate Amateur Radio to the government officials. The team collected 657 contacts in the contest and 579 prior to the contest.

QSL cards for this special operation are being handled by Paul Herbet, F2YT, and any extra contributions would be welcomed to help support the ARAC club station at the PTT Training Centre in Kinshasa. The society is looking into the possibility of acquiring a new or second hand 20/15/10 tribander, HF transceiver (no tune). Anyone who can help is asked to please contact the ARAC treasurer Nicole, TU5NC/5NØYL, by e-mail to gckin@ic.cd.

Bernie McClenny, W3UR, in his *The Daily DX*, says the DX community is now wondering about the status of Pierre Petry, HB9AMO, who holds the call 9Q5BQ. The Secretary General of the PTT for the Democratic Republic of Congo issued a letter of notice in French to the ARAC on 28 June 2001. Translated into English it basically says, "I acknowledge receipt of your letter dated 25 June 2001 relative to the subject and thank you for it. In accordance with certain stations transmitting on HF frequencies reserved for the Amateur Service under the calls 9Q5BQ and 9Q/CX2CC from the Democratic Republic of Congo, and following the report of listening to 9Q5BQ on 24 June 2001 we are really surprised. I confirm to you not to have delivered license of Amateur Service to anyone with the calls. Thus all these radios amateurs emitting are quite simply pirate stations."

Jan Mayen (JX)

Per Dahlen, LA7DFA, is back on Jan Mayen (EU-022), and hopes to be active thru October signing with JX7DFA. Per operates 6 through 160 Meters, both CW and SSB.

Mariana Islands (KHØ)

The Daily DX says Shunichiro Wakiyama, JH7IMX, will activate Saipan Island in the northern Mariana Islands (OC-086), 28 September through 2 October, signing with KHØ/K7WD. QSL requests should be routed via his JH7IMX home call.

Also, NHØS will be the call used by Hisashi Matsushita, JF2SKV, from Saipan Island between 22 and 26 November 2001. He'll be on HF and 6.

And the month earlier, 26 to 29 October, KHØA will be the call used by Takashi Sugawara, JF1MIA, also from Saipan.

Midway Island (KH4)

Rudi Zerbe, DL7VFR, and Tom Lindner, DL2RUM, will activate Midway Island (OC-030) 20 to 29 September on all bands, 6 to 160 Meters, using CW, SSB and RTTY,

according to *The Daily DX*. Additional information can be found on their website at *http://www.qsl.net/dl2rum/*.

Somalia (T5)

The Daily DX says that the T5AR operation in Somalia has been approved for DXCC credit. It was on the bad list for lack of documentation. Anyone who has submitted it and had it rejected can contact the DXCC Desk and they'll be able to update their record without having to submit the card again. If not, it can be sent in with your next submission.

IOTA

Roger Balister, G3KMA, says that as of 1 July 2001 the following additional operations have provided acceptable validation material to the IOTA Committee:

AF-090 5R8GT	Sainte-Marie Island	(April 2001)
AF-090 5R8GY	Sainte-Marie Island	(May/June 2001)
AS-013 8Q7WH	Maldive Islands	(June 2001)
AS-056 JA6GIJ/6	Danjo Islands	(June 2001)
AS-056 JA6JPS/6	Danjo Islands	(June 2001)
AS-056 JA6LCJ/6	Danjo Islands	(June 2001)
AS-154 YMØKG	Giresun Island	(April 2001)
AS-158 BA4DW/2	Changshan Islands	(May 2001)
EU-188 UE1RCV/1	Sengeyskiy Island	(March 2001)
NA-045 XF3/AB5EB	Mujeres Island	(June 2001)
NA-045 XF3/KB5SKN	Mujeres Island	(June 2001)
OC-034 YC9WZJ	Java Island	(resident)
SA-017 HK3JJH/5	La Palma Island	(April 2001)

Look for Kadek Kariana, YC9BU, who plans activity from Java Coastal Islands (OC-237) in October.

According to *425 DX News* a couple of Italian DXers will be in the Solomons this October and plan on activating New Georgia Island (OC-149) 8-15 October. Then they will head to Pigeon Island (OC-065) for the period 17-23 October. The latter operation is a separate DXCC entity. Calls will be issued upon arrival.

Activity in July was very good. In addition to the annual RSGB IOTA contest many island groups were activated. Some dedicated IOTA types jumped from one island to the next, sort of like the mobile county hunters. I cannot list all of these operations as it would devote the entire column and then some to this activity. So, I have listed just one of each island group for a sampling of the July activity:

AF-018 IH9/IZØBNU	Pantelleria Island	18-20 Jul
AF-019 IG9/IV3KCC	Lampedusa Island	02-19 Jul
AF-083 3V8SM	Djerba Island	10-27 Jul
AF-091 3V8GI	Galite Island	08-11 Jul
AN-006 EM1HO	Galindez Island	11-25 Jul
AS-015 9M2/JI1ETU	Penang Island	21-27 Jul
AS-017 JR6EA	Okinawa Island	09-23 Jul
AS-023 7N1GMK/6	Amami Islands	03-07 Jul
AS-024 JI1QBY/6	Yaeyama Islands	22 Jul
AS-032 JA6CTW	Yaku Island	04 Jul
AS-041 JA4EVH/4	Oki Islands	22 Jul
AS-043 JF2WXS/1	Hachijo	21 Jul
AS-045 HL5FUA	Ullang Island	07 Jul
AS-049 JI3DST/6	Tokara Islands	30-31 Jul
AS-053 HSØ/IK4MRH	Phuket Island	13 Jul
AS-056 JA6GXK	Meshima	14-15 Jul
AS-060 HLØAGD/4	Cheju Island	02-03 Jul
AS-066 UAØNL/P	Russky Island	24-30 Jul
AS-081 HLØO/5	Namhae Island	01 Jul
AS-089 UA1PBP/9	Marresal'skiye Koshki Islands	05-15 Jul
AS-090 DS3BGI/2	Tokchok Islands	27 Jul
AS-091 UEØXYZ	Ptichiy Island	22-30 Jul
AS-099 YMØKA	Bozcaada Island	23-25 Jul
AS-103 BV9AAC	Penghu Island	31 Jul
AS-117 JH4TEW/4	Honshu Coastal Islands	03-08 Jul
AS-159 TAØ/IT9YRE	Kefken Island	03-05 Jul
EU-006 EJ9HQ/P	Straw Island	29 Jul
EU-008 GSØUTT/P	Isle of Skye	23-26 Jul
EU-009 GM3IBU	Orkney Islands	24 Jul
EU-010 GM3JIJ	Isle of Lewis	07-29 Jul
EU-012 GM4ZVD/P	Shetland Islands	01-09 Jul
EU-016 9A4W	Brac Island	03-22 Jul
EU-027 JW4LN	Bear Island	16-18 Jul
EU-028 IA5/IK5PWQ/P	Isola d'Elba	16-22 Jul
EU-029 OZ/DL2JRM/P	Sjaelland Archipelago	01-19 Jul
EU-030 OZ/DJ7RJ	Bornholm Island	21-31 Jul
EU-031 IC8AMR	Ischia Island	02-26 Jul
EU-032 F8CHM/P	Aix Island	13 Jul
EU-033 LA4MQ	Vesteralen Islands	21 Jul
EU-034 ES5MC/0	Saaremaa Island	19-24 Jul
EU-036 LA8LA	Hitra Island	02-05 Jul
EU-037 SM7/DL5MO	Oland Island	09-13 Jul
EU-042 DL4FCH/P	Pellworm Island	17-31 Jul
EU-043 SM7CQY/6	Orust Island	17-21 Jul
EU-045 IBØ/IZØCKM	Isola di Ponza	07-13 Jul
EU-047 DL1BBR	Norderney Island	07-21 Jul
EU-049 SV8DCY	Lesvos Island	09 Jul
EU-050 IL7/IK4DJD	San Domino Island	25 Jul
EU-052 SV8EP	Kefalonia Island	07 Jul
EU-054 IF9/IT9PPG	Egadi Islands	10-30 Jul
EU-056 LA/DL5ME	Vigra Island	18-22 Jul
EU-057 DL1YC/P	Reugen Island	11-23 Jul
EU-060 SV2FPU/8	Skyros Island	03-17 Jul
EU-064 F6BFH/P	Noirmoutier Island	13-16 Jul
EU-066 RW3TN/1	Solovetskiye Island	25-30 Jul
EU-067 SV8CEI/P	Tinos Island	01-06 Jul
EU-068 TM1ON	Ile de Sein	26-27 Jul
EU-072 SVØJD/SV8	Skiathos Island	06-21 Jul
EU-076 LA/OM3YCZ	Lofoten Islands	12 Jul
EU-079 LA/DL5ME	Rundoe Island	14-17 Jul
EU-082 RA1QY/1	Kildin Island	01-05 Jul
EU-087 SM3LF	Alnon Island	04-12 Jul
EU-092 GM3VLB/P	Summer Isles	04-09 Jul
EU-102 UE1QAA/1	Lovetskiy Island	22-24 Jul
EU-108 GM3VLB/P	Treshnish Islands	14-16 Jul
EU-110 9A1ØHRM	Brijuni Islands	29-31 Jul
EU-120 GB2BLE	Lundy Island	04 Jul
EU-123 GMØVIV/P	Isle of Stroma	23-24 Jul
EU-125 OZ/DH8WW	Fanoe Island	09-13 Jul
EU-128 DK5AN/P	Fehmarn Island	01-10 Jul
EU-129 DL1JEQ/P	Usedom Island	03-18 Jul
EU-131 IK3PQH	Lido Island	01-11 Jul
EU-132 SQ4GXE/1	Wolin Island	22-30 Jul
EU-133 UE1CIG	Gogland Island	27-30 Jul
EU-133 UA1ANA/1	Bolshoy Berezovyy Island	19-23 Jul
EU-134 ED2IZA	Izaro Island	29-31 Jul
EU-136 9A6AA	Losinj Island	07-31 Jul
EU-138 SM7/I2AE	Hasslo Island	18 Jul
EU-144 IK8TWX/8	Isola Dino	01 Jul
EU-147 RA1TC/1	Ptichy Island	21 Jul
EU-149 ES1RA/1	Aegna Island	27-30 Jul
EU-153 RZ1OA/A	Lyasomin Island	25-31 Jul
EU-158 SV3/IK6CAC	Proti Island	25-26 Jul
EU-170 9A4A	Pag Island	01-30 Jul
EU-171 OZ4PAX	Vendsyssel Island	18-21 Jul
EU-172 OZ/DL3LK	Thuroe Island	22-26 Jul
EU-173 OH2NAF/P	Reposaari Island	09 Jul
EU-174 SV8/IHA8KW/P	Thassos Island	03-09 Jul
EU-176 SM3TLG/3	Klacksoarna Island	19-21 Jul
EU-177 8S4C/5	Stora Alo Island	10-14 Jul
EU-178 ES1RA/8	Kihnu Island	01-02 Jul
EU-184 OH6AW/8	Hailuoto Island	01-04 Jul
EU-185 RI6AAA/P	Krupenina Island	29-31 Jul
EU-186 YMØMA	Gokceada Island	25-26 Jul
EU-188 UE1RCV/1	Sengeyskiy Island	31 Jul
NA-010 VE1OTA/P	Cheticamp Island	31 Jul
NA-014 VE9MY/P	Deer Island	14 Jul
NA-034 KM4RX	Anna Maria Island	01-31 Jul
NA-036 VE7TUB	Vancouver Island	21 Jul
NA-038 XM2CWI	La Madeleine Islands	27-31 Jul
NA-041 KF8UN/KL7	Baronof Island	10 Jul
NA-045 XF3IC	Contoy Island	21-22 Jul
NA-046 W1RQ/1	Martha's Vineyard	01-13 Jul
NA-047 VYØAAA	Baffin Island	30-31 Jul
NA-051 VE7TLL	Queen Charlotte Islands	03-07 Jul
NA-059 NO7F/KL7	Unalaska Island	06 Jul
NA-062 WB1BVQ/P	Florida Keys	24-25 Jul
NA-067 WB8YJF/4	Okracoke Island	23-27 Jul
NA-068 VE1OTA/9	Miscou Island	10-12 Jul
NA-072 HP1XVH	Contadora Island	07 Jul
NA-083 WZ3AR/4	Chincoteague Island	01 Jul
NA-085 W4R	St George Island	13-14 Jul
NA-092 N2OML/5	Mustang Island	13-15 Jul
NA-110 AA4V	Isle of Palms	04 Jul
NA-111 N2MR	Long Beach Island	06-07 Jul
NA-125 VE2MAM/P	Grand Basque Island	20-23 Jul
NA-127 VE1OTA/P	Brier Island	22 Jul
NA-139 N8WNB/P	Fenwick Island	01 Jul
NA-143 AB5EB	Galveston Island	03 Jul
NA-144 KC6VNA/P	Santa Rosa Island	01 Jul
NA-148 WF1N/W1DIG	Thacher Island	(27-29)

OC-027 FO5QB	Marquesas Islands	18 Jul
OC-033 FK8HZ	Lifou Island	04-23 Jul
OC-066 FOØ/F6CTL	Rangiroa Island	02-10 Jul
OC-095 3D2RW	Lau Group	16-26 Jul
OC-137 VK4CY	Lamb Island	01-17 Jul
OC-144 YC4FIJ	Balitung Island	02-24 Jul
OC-169 A35RK	Lifuka Island	21 Jul
OC-195 VK7FLI	Flinders Island	05 Jul
OC-201 ZL1DD	Waiheke Island	31 Jul
OC-209 YC8UFF/P	Talaud Islands	30 Jul
OC-210 YC8RRK	Sangihe Island	30 Jul
OC-245 YB5NOF/P	Rupat Island	27 Jul
SA-012 YV7QP	Isla Margarita	31 Jul
SA-028 PX2I	Sao Sebastiao Island	01-27 Jul
SA-068 8R1AK/P	Leguan Island	06-16 Jul
SA-089 4M1X	Cayo Sombrero	21-24 Jul
SA-090 YV5JBI/P	Pirutu Island	26 Jul

2001 IOTA Honor Roll

Roger Balister, G3KMA, has released the annual IOTA Honor Roll for 2001. This year honor roll members were restricted to 750 island groups or more. The total included some 150 IOTA chasers. This number is the threshold for applicants for RSGB's IOTA Plaque of Excellence.

There is also the regular honor roll listing which includes almost another 300 IOTA hunters. With this amount of activity surely the IOTA program has been very popular among the deserving DXers.

At the top of the list is F9FM with 970 island groups confirmed and credited. The top North American is Garry Hammond, VE3XN, with 949 island groups. Tied with Garry is Dr. Don Chamberlain, W9DC, representing us Americans.

Your DX editor was down at number 216 with 665 IOTA island groups credited. Farther down the list was local DXer, Norm Wilson, N6JV, ranking at number 262 with 616 island groups. Norm's choice of operation is CW and all of his were via that mode. That's quite a feat as most IOTA operations use SSB.

Most wanted IOTA islands

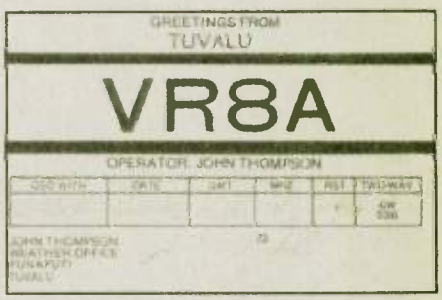
The RSGB IOTA Committee has assembled the 2001 IOTA Most Wanted List, based on QSL cards submitted for IOTA credit. I have included only North America and the listing includes only the rarer groups, those which less than 10% of members have credited. The arrangement, prepared by *425 DX News*, is shown in order of the IOTA reference number with the percentage on the right represents the proportion of members who have submitted valid cards. The listing has been generated after the 2001 Honor Roll/Annual Listing exercise and reflects the position as of 28 April 2001. The full continental listings are available at the RSGB website, *http://www.rsgbiota.org*.

NA-004 KL North Slope County Centre group	7.90%
NA-035 HR Santanilla (Swan) Islands	7.50%
NA-043 VYØ Nunavut (Sverdrup Islands) group	6.60%
NA-050 KL North Slope County East group	8.70%
NA-053 KL Trinity Islands	4.70%
NA-064 KL Near Islands (Agattu & Attu) group	9.10%
NA-070 KL Rat Islands	5.00%
NA-078 XE2 Baja California Sur State SW group	6.80%
NA-086 CO7 Ciego De Avila/Camaguey Prov North	7.60%
NA-087 KL Shumagin Islands	9.60%
NA-121 KL Dillingham/Bristol Bay County group	5.20%
NA-124 XE2 Baja California Sur State SE group	6.20%
NA-129 VYØ Nunavut (Banks Island) group	9.50%
NA-135 XE3 Campeche State group	9.50%
NA-153 XE3 Yucatan State group	6.30%
NA-156 VYØ Nunavut (Hudson Bay-QC Coast) NW	7.20%
NA-158 KL Kenai - Cook Inlet group	8.30%
NA-159 VYØ Nunavut (King George Islands) group	7.40%
NA-162 XE2 Baja California State NW group	5.00%
NA-163 XE2 Baja California State East group	3.80%
NA-164 XE2 Baja California Sur State NW group	4.80%
NA-165 XE2 Baja California Sur State NE group	4.40%
NA-166 XE2 Sonora State South group	1.10%
NA-167 XE2 Sonora State North group	2.60%
NA-171 XE2 Sinaloa State group	6.80%
NA-172 KL North Slope County North group	9.90%
NA-175 VYØ Nunavut (Kitikmeot Region) West Cent	8.80%
NA-178 W6 CA State Centre (Sonoma to Santa Cruz)	2.20%
NA-179 XE2 Guadalupe Island	9.10%
NA-182 VE8 NWT (Inuvik Region) East group	6.00%
NA-186 VYØ Nunavut (Hudson Bay-Manitoba Coast)	3.40%
NA-188 XE3 Oaxaca State group	8.10%
NA-189 XE1 Nayarit/Jalisco State group	8.60%
NA-192 VE8 NWT (Inuvik Region) West group	9.90%
NA-193 VY1 Yukon Territory group	7.50%
NA-195 VYØ Nunavut (Hudson Bay-QC Coast) Centre	9.30%
NA-200 XE3 Quintana Roo State South group	8.80%
NA-210 KL Nome County Centre group	7.90%
NA-214 KL Nome County South group	8.30%
NA-215 KL Northwest Arctic County group	7.70%
NA-216 KL Northern Alaska Peninsula West group	8.80%
NA-218 CO8 Las Tunas to Santiago de Cuba Province	0.00%
NA-219 C6 Cay Sal Bank Cays	5.60%
NA-220 OX Greenland's Coastal Islands SW	0.00%

So if you are interested in an inexpensive mini-DXpedition close to home take a look at these. It is interesting to note that Long Island (NA-026) has been credited to 50.90% of the IOTA crowd, which is amazing as a place like St. Pierre & Miquelon (NA-032) is farther down the list. In other words more IOTA hunters need Long Island than rare St. Pierre!

Antique QSL department

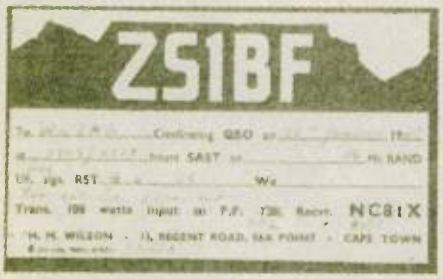
Our collection of QSL cards for this month covers a wide period beginning with one more recent and going back prior to World War II. The call VR8A was the called used by John Thompson of Funafuti in Tuvalu. This card dates from 11 May 1976 and was provided by Leo Haijsman, W4KA, former custodian of *CQ*'s WAZ awards program. Tuvalu became a new DXCC entity in the beginning of that year and was later assigned the T2A-T2Z prefix block by the ITU.



The call VR8B has been floating around during the past few years. This is our old friend Slim. The call was authentic back when Tuvalu came into being and was used by the late Lloyd

(W6KG) and Iris (W6QL) Colvin.

ZS1BF was the call used by H.M. "Willie" Wilson of South Africa, who Leo, then signing with W4JNG, worked back on 22 January 1948.



The third card is from the collection of Lew Wilhelm, W7TB, who is now a Silent Key. Lew was signing with W6NGD way back on 21 August 1937 when he worked LY1S of Latvia.

Thanks go to the following contributors for this month's column: G3KMA, W4KA, W7TB, Western Washington DX Club (WAØRJY), Northern Arizona DX Association (W7ST), WebCluster (OH2AQ), *425 DX News* (I1JQJ,), *The OPDX Bulletin* (KB8NW), DX-News (NJDXA), *The Low Band Monitor* (KØCS), *The Daily DX* (W3UR), and QRZ DX (N4AA).

Well, the big annual CQ Worldwide DX Contest is just around the corner. For you new to DX this is an excellent source of DX for you to work and can be lots of fun. It sure beats sitting and waiting for "that's a good contact" style on the DX nets that only builds on some listmaster's ego! 73 de John N6JM.

— John Minke III, N6JM, can be reached by sending snail mail to: 6230 Rio Bonito Dr. Carmichael, CA 95608, or by e-mail at: n6jm@pacbell.net.

DX Prediction — October 2001

Maximum usable frequecy from West Coast, Central U.S. and East Coast (courtesy of Engineering Systems Inc., Box 1934, Middleburg, VA 20118). 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. Smoothed sunspot number = 105. 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 U.S.A.

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	*(13)*	11	***20**	11	***18**
10	*(13)*	11	***18**	*(11)*	***18**
12	27	11	***17**	***22**	***31**
14	31	12	***26**	***24**	***36**
16	33	*(11)*	22	***22**	***39**
18	***33**	*(11)*	*(19)*	18	***40**
20	***31**	22	29	13	***40**
22	***27**	25	***35**	12	***40**
24	***18**	22	***38**	***12**	***35**
2	***16**	15	***30**	***11**	***29**
4	***15**	13	***26**	***11**	***25**
6	*(14)*	12	22	***11**	***21**

WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	*(14)*	***12**	***21**	*(11)*	***19**
12	*(13)*	11	***19**	*(11)*	18
14	26	11	***18**	22	***32**
16	30	***14**	***22**	21	***39**
18	***32**	14	*(19)*	18	***40**
20	***31**	***27**	28	13	***41**
22	***26**	***27**	***35**	*(12)*	***40**
24	23	***26**	***39**	*(11)*	***36**
2	***18**	***23**	***39**	11	***29**
4	***16**	***15**	***34**	11	***25**
6	*(15)*	13	***28**	***12**	***22**
8	*(14)*	***12**	***24**	*(11)*	***18**

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	17	*(11)*	19	***11**	***20**
9	16	11	***18**	11	***18**
11	***34**	11	***17**	***22**	***29**
13	***39**	***12**	***28**	***25**	***34**
15	***42**	*(11)*	24	***25**	***37**
17	***42**	*(11)*	21	***23**	***39**
19	***35**	*(11)*	25	19	***40**
21	***29**	22	33	14	***40**
23	***23**	22	37	***12**	***37**
1	***20**	15	29	***12**	***30**
3	***19**	13	25	***11**	***26**
5	***18**	*(12)*	21	***11**	***22**

First 24 GHz EME QSO

Here's another one for the Amateur Radio record books. On Saturday, 16 August, amateurs in Texas and Manitoba completed the first 24-GHz Earth-Moon-Earth (EME) QSO. The contact followed by several months the first documented echoes from the moon on 24 GHz.

Noted microwave enthusiast Al Ward, W5LUA, of Allen, Texas (EM13), says his QSO with Barry Malowanchuk, VE4MA, in Winnipeg, Manitoba (EN19), was a result of several years of effort in trying to optimize antenna gain and receiver sensitivity, and to obtain adequate power to make the roughly half-million mile path to the moon and back.

"Signals were weak but easily copied at both ends," Ward said. The 18 August QSO took place at 1417 UTC on 24.192 MHz. Malowanchuk said the two exchanged "M" reports.

After many failed attempts, Ward succeeded last March in hearing 24 GHz EME echoes and documenting them for the first time. Such accomplishments on 24 GHz are particularly significant because water-vapor absorption of signals peaks at around that frequency.

VE4MA used a 2.8-meter offset-fed dish and a travelling wave tube amplifier producing 70 W. W5LUA has a 3-meter prime focus dish and a TWT amp producing 80 W. A fixture in the VHF-UHF and microwave standings, Ward was the recipient of the 2000 ARRL Microwave Development Award.

Additional details are on the North Texas Microwave Society web siteat: *www.ntms.org. — ARRL Letter*

QSL Managers

3A/IZ1DSH	IZ1DSH
3A2DX	pirate
3D2RW	ZL1AMO
3V8CB	DL1BDF
3V8MED	DL1BDF
3W2B	XW2A
3W2LWS	WA1LWS
3W2PS	HL4CYZ
4A3ZOI	XE1ZOI
4L/AJ3M	AJ3M
4M1X	W4SO
4S7VK	DJ9ZB
4U1ET	4W6MM
4U1WB	KK4HD
4Z8BB	WC1X
5H3KA	JA2LZF
5K3CA	HK3DDD
5N3NDP/6	IK5JAN
5X1GS	WB2YQH
6D2X	AC7DX
6D8Z	AC7DX
6DØZ	AC7DX
6GØV	AC7DX
6H3KK	XE1KK
7XØAD	EA4URE
8S4C/5	SM4DDS
8S7A	W3HNK
9A/HA6NL/p	HA6NL
9A/HA6PS/p	HA6PS
9A/HA6ZV/p	HA6ZV
9A/OK1FUA	OK1MG
9A/ON4CJK/P	ON4ADN
9A/S55A	S55A
9A/S57RW/P	S57RW
9A1C/p	9A4BL
9A1ØHRM	9A7K
9A2NO/p	9A2NO
9A2V/p	9A2V
9A5DJ/P	OK1DJG
9A5TN/P	OK1TN
9A7T/p	9A2EU
9A9Z/p	9A1ADE
9AØA	OK1FLM
9AØE	DJ4PG
9AØLH	9A7K
9H3TI	DL2AAZ
9J2BO	G3TEV
9K11POW	9K2RA
9M6AAC	N2OO
9M6EYT	JA3EYO
9M6IFT	JA3IFT
9M6TBT	KD3TB
9N7RB	W4FOA
9QØAR	F2YT
9V1GA	JA4BJO
9V9HQ	AA5BT
BI4U	BA4RD
BV9A/JH3JWW	J H3JWW
BV9A/JI3DST	JI3DST
BV9AYA	JH3JWW
BWØRS	BV4VE
BWØTCC	BV4CN
C21TA	VK3DYL
C4MG	5B4KH
C56YT	VK4AO
C6AJR	W8GEX
C91MR	G3MRC
C97MR	G3MRC
CEØY/IK5SQX	IK5SQX
CM8WAL	EA5KB
CO2OJ	K8SIX
CO8LF	DL1ZU
CP4BT	EA5KB
CP5/G4ASL	G4ASL
CP6BT	EA5KB
CQ2I	EA4URJ
CQØODX	CT2GZE
CT1/CT3FN	HB9CRV
CU4AP	CU3AN
DF4XX/p	DF4XX
DS1EON/2	HL1OYF
DS1EVQ/2	HL1OYF
DS3BGI/2	HL1OYF
DSØDX/2	HL1XP
EA6/SP4AOQ	EC6TK
EC7DWO	EA7KY
ED2IZA	EA2URV
EI8EM	W2ORA
EK6LF	DJØLZ
EL2DT	WA4TII
EM1HO	I2PJA
ENØPA	UT5PW
ER7HQ	ER1FF
F/GØMEU/p	ON4ON
F5RYC/P	F5RYC
FK8GM	WB2RAJ
FOØCLA	F6CTL
FP/K9WM	NN9K
FP/KB9LIE	KB9LIE
FS/W6IZT	W6IZT
GB5SI	MM0BQI
GDØCGL/P	GØCGL
GM2T	GM4UYZ
GM4WSB/M	G4WSB
GMØDHZ/PGØDHZ	
GSØUTT/P	GØUTT
GWØNWR/P	GWØDSJ (direct)
GWØNWR/P	GWØNWR (bureau)
HBØ/PI4TUEPI4TUE	
HC8N	AA5BT
HI3/KB2MS	KB2MS
HK5/W5WP	W5WP
HKØOEP	NØJT
HL1OYF/2	HL1OYF
HL1TXQ/2	HL1OYF
HL1VAU/2	HL1OYF
HLØC/4	HLØC
HLØY/2	HLØY
HR1/W4CK	W4CK
HS4BPQ	E21EIC
HSØZCW	K4VUD
IA5G	I5ZUF
ID9/IK8PGM	IK8PGM
ID9/IT9SSI	IZ8CCW
II9R	IT9HLR
IMØR	ISØAGY
IO7Z	IZ7AUH
IT9JOF/IH9	IT9JOF
J3/PA3EWP	PA5ET
J3/PA5ET	PA5ET
J3/PA7FM	PA5ET
J3/PAØZH	PA5ET
J38PA	PA5ET
J43J	DJ5JH
J49R	I2WIJ
J75KG	KU9C
J88DR	G3TBK
JD1BCK	JM1TUK
JI3DST/6	JI3DST
JW4LN	LA4LN
JW5E	LA5NM
JW6RHA	LA6RHA
JX9ZP	LA9ZP
K2HX/KP4	DJ9HX
K4T	K4PCF
K6KO/HC8	WM6A
K6TA/HC8	WM6A
K9Y	N9BOR
KA1I/NH2	JH7BZR
KH2/7N4JZK	7N4JZK
KH2/KJ1C	JI1CYX
KH6/K4IQJ	K4IQJ
KHØ/JHØSPE	JHØSPE
KL7AK/P	N6AWD
KP2/AA1BU	AA1BU
KP2/AG8L	NN6C
L8ØAA/D	LU4AA
LG5LG	SM5DJZ
LOØD	F6FNU
LT2D	LU2EE
LV5D	LU7DS
LW9EOC	EA7JX
LX/DK1WV	DK1WV
MJØAWR	K2WR
MMØBNN	MØBNN
MMØBNN/P	MØBNN
N6HR/VE7	N6HR
N7YX/VE7	N6HR
NH4/NH6YK	NH6YK
OE75OHO	OE5OHO
OHØ/OH2K/M	OH2LRE
OHØ/OK1NR/p	OK1NR
OHØ/OK2DA/P	OK2DA
OHØ/OK2PBM/p	OK2PBM
OHØCO	SMØCCO
OHØV	OH6LI
OJØ/AH7X	JP1NWZ
OJØ/LA3IKA	LA3IKA
OJØ/LA5UKA	LA5UKA
OJØ/LA6YEA	LA9VDA
OJØ/LA9VDA	LA9VDA
OJØRJ	OHØRJ
OX/SP8UFO	SP8TK
OY/DF2SS	DF2SS
OZ/DH8WW	DH8WW
OZ/DL7UXG/p	DL7UXG
PJ2/GØWKW	GØWKW
PJ2/G3XSV	G3XSV
PTØT	PY1LVF
PX2I	PY2TNT
PY1VOY/PYØT	PY1LVF
R1FJV	UA3AGS
R3DAS	UA3DJ
RA1TC/1	RA1TC
RA2FW/1	RA2FW
RA3NN/1	RA3NN
RA3NZ/1	RA3NZ
RI1CGG	RN1AW
RI6AAA	UA6CW
RK1A/P	RZ1AK
RK1B/P	RZ1AK
RKØYWA/P	RAØWA
RM9RX	RW9QA
RM9RZ	RW9QA
RN2FA/1	RN2FA
RN9RZ	RW9QA
RS9O	UA9OBA
RU1OG/A	RZ1OA
RZ1OA/A	RZ1OA
RZØZWA	RAØZD
S21YH	7M4PTE
S21YT	JA7KXD
S21YV	KX7YT
SI9AM	SM3CVM
SJ9WL	SM5DJZ
SK6M	SM6DYK
SM5/GØGRC	GØRCI
SM6/DL5MODL	5MO
SM7/DL5MODL	5MO
SNØDO	SP2ZIE
SV3/IZØCKJ	IZØCKJ
SV8/IK3GES	IK3GES
SV9/G4DHF	G4DHF
SW8T	SV8DTL
T7/IW3RUA/P	IW3RUA
T88DX	JI3DLI
TAØ/LZ1CNN	LZ1NK
TAØ/LZ1NK	LZ1NK
TE8AT	TI3MCY
TG7/W9AEB	W9AEB
TL8CK	F6EWM
TM1BFA	F6KFO
TM1ON	ON4ON
TR8IG	F5IG
TT8DX	F5OGL
TT8JE	F6FNU
TU5GD	N5FTR
UA1OLM/A	RZ1OA
UA1OMS/1	UA1OMS
UA1QV/1	UA1QV
UA1TAN/1	UA1TAN
UA1TBK/1	UA1TBK
UA9C/UA9QDK	RW9QA
UA9QA	RW9QA
UA9QDK	RW9QA
UAØNL/P	UAØNL
UE1CIG	RN1AW
UE1QAA/1	UA1RJ
UE1QAA/1	UA1RJ
UE1RAA/1	UA1RJ
UE1RCV/1	UA1RJ
UE1SAA/1	UA1RJ
UE3DDJ	RZ3DJ
UE3FCW	UA3CS
UE3FFF	RU3HD
UEØXYZ	RAØZD
UEØXYZ	RAØZD
UN8GF	IZ8CCW
UR1L	UX3LZ
UR6F	UXØFF
V47FNH	WB4FNH
V47UY	KJ4UY
V73OJ	WA5IPS
VE2A	VE2QK
VI4FLG	VK4WIT
VKØKMT	VK4KMT
VO2/K2FRD	K2FRD
VP5/K9APW	K9APW
VU3MCV	ON7LX
VY2PEI	VY2RU
VYØAAA	VE3FN
W1F	KO4PY
W4R	N4OX
XE2GV	AC7DX
XE2XA	AC7DX
XE2Z	AC7DX
XEØDX	AC7DX
XF3IC	XE3OYJ
XL3NJ	VA3NJ
XM2AWR	VE2AWR
XM2CWI	VE2CWI
XM2JCW	VE2JCW
XM3SJL	VE3SJL
XU7ABR	DL4KQ
XU7ABT	DL4KQ
XU7ABU	DL4KQ
XU7ABV	DL8KBJ
XX9TFI	W5FI
YB7N	WB7B
YC1VBH	EA7FTR
YC9MB	IZ8CCW
YCØUTC	IZ8CCW
YI9OM	OM6TX
YL5W	YL2GN
YL8ØØBJ	YL2BJ
YL8ØØCW	YL3CW
YL8ØØGP	YL2GP
YMØKA	TA2DS
YMØMA	LZ1NK
YN9HAU	EA7JX
YRØHQ	YO3FRI
YV5JBI/P	YV5JBI
Z32XX	NN6C
ZA/IZ7DOO	IZ7DOO
ZK1AHB	KM6HB
ZK1SCQ	DL6DK
ZL2/K3SRO	K3SRO
ZP26DC	ZP1LL
ZS6SRL	ZS4BS
ZX5T/1	IV3NVN (direct)
ZX5T/1	PP5TO (bureau)

3W2B P.O. Box 2659, Vientiane, Laos
4J3M Yuri Frolov, P.O. Box 1, Mingechevir 374311, Azerbaijan
4W6MM Thorvaldur Stefansson, P.O. Box 3699, Darwin, NT 0801, Australia
7N4JZK Tatsurai Cho MD, 602-2 Nagata, Mohka-city, Tochigi 321-4364, Japan
9A5KV P.O. Box 286, 20000 Dubrovnik, Croatia
9A7K Kresimir Juratovic, P.O. Box 88, HR-48001 Koprivnica, Croatia
9M2/JI1ETU Masaru Funakubo, 1B-15-01, Sunnyville Condo, Jalan Batu Uban, Glugor Penang, 11700 Malaysia
9M2TO Tex Izumo, 2C-10-03, Ferringhi Mutiara Apt., JLN. Sungai Emas 11100, Batu Ferringhi, Penang Is., Malaysia
9M6CT P.O. Box 7, Pat Pong P.O., Bangkok 10506, Thailand
BA4RD Ken Wang, P. O. Box 538, Nanjing 210005, China
DJ4PG Hans Welling, zum Ortenbrink 42, 49205 Hasbergen, Germany
DK8ZD Jochen Errulat, Berliner Strasse 31-35, D-65760 Eschborn, Germany
DL1ZU Martin Wieland, Cottbuser Str. 10, 35440 Linden, Germany
DL4KQ Frank Rosenkranz, Blumenstr. 25, 50126 Bergheim, Germany
DL5ME P.O. Box 180109, 39028 Magdeburg, Germany
DS4CNB Lee Dae Ryung, P.O Box 30, Tongyung 650-600, South Korea
EA4URJ URE Jarama, P.O. Box 123, 28700 San Sebastian de Los Reyes, Madrid, Spain
EA5KB Jose F. Ardid Arlandis, Apartado 5013, 46080 Valencia, Spain
EA7JX Rodrigo Herrera, P.O. Box 47, 41310 Brenes, Sevilla, Spain
EO56JS P.O. Box 14, Sevastopol 99055, Ukraine
EP3PTT Post Office Box 4415, Tehran 15875, Iran
EZ1ØA P.O. Box 73, Ashgabat 744020, Turkmenistan
EZ21A P.O. Box 73, Ashgabat 744020, Turkmenistan
EZ56V P.O. Box 73, Ashgabat 744020, Turkmenistan
EZ75R P.O. Box 73, Ashgabat 744020, Turkmenistan
G4DHF David Johnson, Deans Cottage, Fen Road, Dowsby, Lincs PE10 0TU, England, UK
GØRCI Alan Gibson, 1 Oakleigh Rd., Grantham. Lincs. NG31 7NN, England, UK
GWØDSJ Edward Shipton, 34 Argoed, Kinmal Bay, Rhyl. Conwy LL18 5LN, Wales, UK
HL1OYF Duk-nam Kim, P.O. Box 54, Dong-Jak, Seoul 156-600, South Korea
HLØC CPO Box 4397, 100-643 Seoul, Korea
I5ZUF Luigi Bulfon, P.O.Box 486, 57100 Livorno - LI, Italy
IK2QPR Paolo Fava, Via Bertani 8, 46100 Mantova - MN, Italy
IK3GES Gabriele Gentile, Via Baratta Vecchia 240, 31022 Preganziol - TV, Italy
IK7BRX Silvestro Mammola, Via Martiri di Via Fani 110, I-71100 Foggia, Italy
IK7JWX Alfredo De Nisi, P.O. Box 218, 73100 Lecce - LE, Italy
IK8PGM Roberto Duca, Viale Europa 184, 80053 Castellammare di Stabia - NA, Italy
IN3ZNR Fabrizio Vedovelli, Via Gramsci 27, 38100 Trento - TN, Italy
IV3NVN Simone Candotto, P.O.Box 4, 33050 Castions di Strada - UD, Italy
IW3RUA Pietro Florio, P.O. Box 0, 33028 Tolmezzo - UD, Italy
IZ7AUH Francesco Giacoia, Casella Postale 2224/TA05, 74100 Taranto - TA, Italy
IZ8CCW P.O. Box 360, 87100 Cosenza-CS, Italy
JA6WFM/HR3 Hiro Nakamura, 1311-11, Miyahara, Yatushiro Gun, Kumamoto, 869-4602 Japan
JA7KXD Junji Ogawa, 2-3-51, Kimachidori, Aoba-Ku, Sendai 980-0801, Japan
JH7BZR P.O. Box 1, Isawa 023-0402, Japan
JI1CYX Shin-ichi Ota, 5-23-46, Mori, Isogo, Yokohama, 235-0023 Japan
JI3DST Takeshi Funaki, 2-18-26 Hannan-cho, Abeno-ku, Osaka-city, Osaka 545-0021, Japan
K2FRD Fred Stevens, 263 Keach Rd, Guilford, NY 13780, USA
K3SRO Robert N. Wilderman, 19 Glen Road, Lansdale, PA 19446-1405, USA
LZ1KSL P.O. Box 597, Burgas 8001, Bulgaria
LZ1NG Nikolay Babarev, P.O.Box 356, Plovdiv 4000, Bulgaria
MMØBQIJim Martin, 3 Lismore Avenue, Edinburgh, EH8 7DW, Scotland, UK
N2OB P.O. Box 345, Tuckerton, NJ 08087, USA
N6AWD Fred K. Stenger, 6000 Hesketh Dr., Bakersfield, CA 93309, USA
OH6LI Jukka Klemola, Aarontie 5, 31400 Somero, Finland
ON4ADN Geert Decru, St. Laurentiusstraat 18, B-8710 Wielsbeke, Belgium
ON4ON Danny Commeyne, Rozenlaan, 38, B-8890 Dadizele, Belgium
PA5ET Rob Snieder, Van Leeuwenstraat 137, 2273 VS Voorburg, The Netherlands
PJ5/UA1ACX Dmitri Tonkopi, University of Sint Eustatius School of Medicine, Golden Rock, P.O. Box 73, St. Eustatius, Netherlands Antilles
PY1LVF Jose Luiz Vieira Fernandes, P.O. Box 18009, 20722-970 Rio de Janeiro - RJ, Brazil
PY2TNT P.O Box 2605, 08780-990 Mogi das Cruzes - SP, Brazil
RAØZD Alexey Antipov, P.O. Box 51, Petropavlovsk-Kamchatsky 683049, Russia
RW9QA Vlad Kondratenko P.O.Box 1, Kurgan-38, 640038, Russia
RZ1AK Dennis Eremin, P.O. Box 202, St.Petersburg 196070, Russia
RZ1OA Vlad Sadakov, P.O. Box 48, Arkhangelsk, 163040, Russia
SP8TK Jerzy Miskiewicz, ul.Walecznych 17, 20-135 Lublin, Poland
UA1NDX Timo Raikkerus, P.O. Box 1010, Petrozavodsk, 185034, Russia
UA3DJ Leonid Kamensky, P.O. Box 410, Zhukovsky 140180, Russia
UK9AA Fedor Petrov, Box 58, Tashkent 700000, Uzbekistan
UKØA Fedor Petrov, Box 58, Tashkent 700000, Uzbekistan
UN2O Leo. V. Welikanov, P. O. Box 1, Atyrau 465002, Kazakstan
UR7QM Valery Smiyan, P.O. box 30, Melitopol-11, 72311, Ukraine
UXØFF Nikolay Lavreka, P.O. Box 3, Izmail, 68600, Ukraine
UY5YY Pavel Guzenko, P.O. box 29, Melitopol-15, 72315, Ukraine
VE9MY Len Morgan, 35 Upper Quaco Rd., Baxters Corner, N.B., E2S 2S2, Canada
VK3DYL Gwen Tilson, 3 Gould Crt, Mt Waverley, Victoria, 3149, Australia
VK4KMT Mark Tell, 3 Whelk Close, Trinity Beach, QLD 4879, Australia
WB8YJF Jon Severt, 5586 Babbitt Rd., New Albany, OH 43054, USA
WF5T Paul Rubinfeld, P.O. Box 4909, Santa Fe, NM 87502-4909, USA
XU7ABF P.O. Box 2659, Vientiane, Laos
XU7ABN Claude Laget, P.O. Box 1373 G.P.O., 99999 Phnom Penh, Cambodia
XWØX P.O. Box 2659, Vientiane, Laos
YB1A Halim Park, KP. Cimacan Rt. 12/06 Cimacan Pacet, Cianjur 43253, Indonesia
YB5NOF John E. Daluas, P.O.Box 194/CPA, Ciputat 15401, Indonesia
YB8HZ Hajar Sas, P.O. Box 105, Pangkep 90600, South Sulawesi, Indonesia
YC8RSW Syarifuddin Syah, Jl. Nusa Indah 21, Bitung 95513, North Sualawesi, Indonesia
YC8TXW Ronny Monoarfa, P.O. Box 166, Tahuna 95800, North Sulawesi, Indonesia
YC8UFF Miky Tuera, P.O. Box 1677, Manado 95016, North Sulawesi, Indonesia
YC9BU Kadek Kariana SP, P.O. Box 106, Singaraja 81100, Bali, Indonesia
YC9NBV Bobby Ndolu, P.O. Box 1021, Kupang 85000, Indonesia
YC9VJ John Saroinsong, Jl. Trikora, Wamena 99511, Indonesia
YC9WZJ Joni Salim, P.O. Box 127, Sorong 98401, Irian Jaya, Indonesia
ZS4BS P.O. Box 12104, Brandhof, 9324, South Africa

12 Store Buying Power!

HAM RADIO OUTLET

WORLDWIDE DISTRIBUTION

KANTRONICS

KAM '98

- Single port VHF or HF
- RTTY, CW, Packet, GTOR, AMTOR, WEFAX
- GPS, NMEA-0183 compatible
- 6-16 VDC, DB-9 connector port

Call Now For Your Low Price!

KAM XL

- DSP modem offers great performance on Packet 300/1200, G-tor, Pactor, Amtor, PSK-31
- RTTY, Navtex, ASCII, Wefax, CW, GPS NMEA-0183 and more!

Call Now For Special Pricing!

KPC-3 Plus/KPC-9612 Plus

High-performance, low power TNC.
Great for packet, and APRS compatible.

Call For Special Low Price!

Detailed illuminated map shows time, time zone, sun position and day of the week at a glance for any place in the world. Continuously moving - areas of day and night change as you watch. • Mounts easily on wall. Size: 34 1/2" x 22 1/2".

Reg $1295. SALE $999.95

ALPHA DELTA OUTbacker HF Mobile Antennas

"Outbacker" Joey
QRP HF/VHF Portable Antenna System

Covers complete HF/VHF range from 80 meters through 2 meters, incl. 30, 17 and 12 meters. Even has separate taps for 80 CW and 75 SSB.

When not in use the Joey easily jumps back in its included cloth pouch for easy transport.

Complete with a durable copper braid counterpoise, and a custom anti-twist 90 degree PL259 adapter for installation on SO-239 connector.

Optional MicroMount miniature light weight tripod for the Joey. Complete with mounting adapter and counterpoise system.

Perfect for Your FT817

Alpha Delta Coaxial Antenna Switches are made only in the U.S.A. The extremely high quality design features a cast housing with a constant impedance micro-strip cavity for outstanding performance through UHF. No lossy wafer switches are used, and a solid positive detent roller bearing switch drive leaves no-doubt as to which position is selected. The unused antenna circuits are automatically grounded to reduce antenna-interaction.

- Delta-2 2-position coaxial switch with SO-239 connectors, rated for up to 500Mhz
- Delta-2/N 2-position coaxial switch with N type connectors, rated for up to 1.3Ghz
- Delta-4 4-position coaxial switch with SO-239 connectors, rated for up to 500Mhz
- Delta-4/N 4-position coaxial switch with N type connectors, rated for up to 1.3Ghz

US TOWER

MA-40

40' Tubular Tower

REG. $1007

SALE $849.95

MA-550

55' Tubular Tower
Handles 10 sq.ft. at 50mph
Pleases neighbors with tubular streamlined look

Reg.$1704

SALE $1399.95

TX-455

55' Freestanding Crank-Up
Handles 18 sq. ft. @ 50 mph
No guying required
Extra-strength const.
Can add raising and motor drive later.

Towers Rated to EIA Specifications
Other Models at Great Prices!

Reg.$1915

SALE $1599.95

Buy From HRO World's Largest U.S. Tower Dealer

All US Towers shipped by truck; freight charges addtl.

AZ, CA, CO, GA, MI residents add sales tax. Prices, specifications, descriptions, subject to change without notice.

Look for the HRO Home Page on the World Wide Web
http://www.hamradio.com

COAST TO COAST FREE SHIPPING
UPS - Most Items Over $100
Rapid Deliveries From The Store Nearest To You!

ANAHEIM, CA
(Near Disneyland)
933 N. Euclid St., 92801
(714) 533-7373
(800) 854-6046
Janet, KL7MF, Mgr.
anaheim@hamradio.com

BURBANK, CA
2492 W. Victory Bl., 91506
(818) 842-1786
(800) 854-6046
Eric, KA6IHT, Mgr.
Victory Blvd. at Buena Vista
1 mi. west I-5
burbank@hamradio.com

OAKLAND, CA
2210 Livingston St., 94606
(510) 534-5757
(800) 854-6046
Mark, WI7YN, Mgr.
I-880 at 23rd Ave. ramp
oakland@hamradio.com

SAN DIEGO, CA
5375 Kearny Villa Rd., 92123
(858) 560-4900
(800) 854-6046
Tom, KM6K, Mgr.
Hwy. 163 & Clairmont Mesa
sandiego@hamradio.com

SUNNYVALE, CA
510 Lawrence Exp. #102
94085
(408) 736-9496
(800) 854-6046
Ken, K1ZKM, Mgr.
So. from Hwy. 101
sunnyvale@hamradio.com

NEW CASTLE, DE
(Near Philadelphia)
1509 N. Dupont Hwy., 19720
(302) 322-7092
(800) 644-4476
Rick, K3TL, Mgr.
RT.13 1/4 mi. So. I-295
newcastle@hamradio.com

PORTLAND, OR
11705 S.W. Pacific Hwy.
97223
(503) 598-0555
(800) 854-6046
Rich, NF7D, Mgr.
Tigard-99W exit
from Hwy. 5 & 217
portland@hamradio.com

DENVER, CO
8400 E. Iliff Ave. #9, 80231
(303) 745-7373
(800) 444-9476
Joe, KD0GA, Mgr.
John, M5EHP, Mgr.
denver@hamradio.com

PHOENIX, AZ
1939 W. Dunlap Ave., 85021
(602) 242-3515
(800) 444-9476
Gary, N7GJ, Mgr.
1 mi. east of I-17
phoenix@hamradio.com

ATLANTA, GA
6071 Buford Hwy., 30340
(770) 263-0700
(800) 444-7927
Mark, KJ4VO, Mgr.
Doraville, 1 mi. no. of I-285
atlanta@hamradio.com

WOODBRIDGE, VA
(Near Washington D.C.)
14803 Build America Dr.
22191
(703) 643-1063
(800) 444-4799
Mike, N4MDK, Mgr.
Exit 161, I-95, So. to US 1
woodbridge@hamradio.com

SALEM, NH
(Near Boston)
224 N. Broadway, 03079
(603) 898-3750
(800) 444-0047
Chuck, KM4NZ, Mgr.
sales@hamradio.com
Exit 1, I-93
28 mi. No. of Boston
salem@hamradio.com

HF mobile treatise

I received a big envelope from *Worldradio* the other day. Inside was, "Everything You Forgot to Ask About HF MOBILEERING", 3rd printing with addendum, June 2001. I had been a little worried about recent listings of Don Johnson, W6AAQ's popular book which showed it "Out of Stock." But all is well again. Even if you don't intend to use Don's famous screwdriver antenna design, there's a lot of good information on antenna mounting, grounding, and noise, as well as rig power considerations. Somehow I previously missed Don's recommendation for the Unibit stepped drill bit and immediately got one at Orchard Supply Hardware (West Coast version of Sears Hardware). I particularly enjoy his coverage of prior art. Besides the nostalgia for mobile Hams of my generation and older, you can't appreciate why we do things a certain way until you understand what was tried and failed. Look in the back of this issue for "**Worldradio Books**."

Tire noise

I mentioned in the previous column that I had more information on tire noise. This is from Joe Flaska, WS2K: "I read with great interest your article on pp 36-37 of the April, 2001 edition of *Worldradio*, in which KC5MH reported hash noise on BCB AM since changing a tire. I have the same problem, but with FOUR tires. I have a 1995 Volvo 850, and the OEM tire on the car was a Michelin MXV4. They are speed rated — but not good on tread life. After having gone through two sets of them in 50k miles, I changed to the X-One, with an 80k-mile rated life. Ever since then I can only hear local AM stations; the ones I like to listen to 50 miles away are barely audible. I used to be so happy with the AM radio in my car, as I could really copy DX at night. Now I'm lucky to hear the local news. The only time I can use AM now is when it rains and the static temporarily disappears. My efforts at tracking the noise down (and I had come to the tire conclusion) were always met with skepticism by tire dealers and Volvo mechanics. But your article prompted me to contact Michelin Engineering directly. Unfortunately, they have confirmed what you have surmised, that the newer, higher-performance tires are not as conductive as the lower grade tires, and they will create static electricity. He could only recommend a static strap as you said. He did say that powdered graphite should not harm the tire if it does not contain any petroleum in its composition. But he also advised that the only tire-filling substance recognized and accepted by Michelin for use in Michelin tires is air. I cannot find any static straps or similar devices in this area."

Thanks, Joe. I know that they use a large quantity of carbon black in tires, so I assume that is the source of conduction. The conducting straps that I recall were a strip of rubber, maybe a foot or more long and 1-1/4" x 3/8" in cross-section. There was a grommet in one end where you bolted it to the frame near the rear bumper. Obviously, it was high in carbon black. Has anyone tried J. C. Whitney?

HF and RV's

As usual, some HF RVing messages came in. Ray and Daisy Crepeau, K1HG and KT4KW, "full-time" in a Pace Arrow motorhome. For HF they run a Kenwood TS-570S/G. When parked, they either deploy a G5RV antenna, or Valor/ProAm sticks on the roof.

Lifetime Subscriber Ron St.Laurent, ND5S, has a Jayco travel trailer and wonders about using a Hustler 5BTV 80-10-meter trap vertical for HF operation (when parked). I replied that I have seen this same antenna, and other trap verticals, in use on RVs for "mobile, not in motion." Typically they

are pivoted in some manner at the rear of the RV to lay along the roof when in motion, or to be raised when stopped for operation. Any number of manual or motorized schemes are used to raise such antennas. "V" blocks can be placed on the roof to support the lowered antenna.

Icom 706 MKII problem

Ron Rasmussen, K6OP, reports that his Icom 706 MK2 developed out-of-band carriers on 17 Meters, and then on 15 Meters. He continues, "Finally I broke down and sent the rig to Icom and after a couple of weeks they informed me that 'they could find nothing wrong with the rig.' They sent it back and I was disgusted with the whole deal. After I reinstalled it in the car it worked perfectly on all the bands. Whatever Icom 'didn't do' solved the problem. The point of the story is if anyone experiences this problem with the 706 you can probably solve it by sending it back to Icom."

Ron goes on, "I had seen the ads in *Worldradio* for the Clear Speech Speaker but never paid much attention to it until Jerry McManus, KA7G, moved into our neighborhood here in Sun City West, AZ. Jerry is one of the owners of AM-COM, the outfit that sells the speaker, and he asked if he could give a program at our West Valley Amateur Radio Club and demonstrate the speaker. Being hard up for programs I agreed but was skeptical of what we would see and hear. The speaker was so amazing at cutting out static, ignition noise of passing vehicles, etc. that he sold about 30 right there at the meeting. Getting $150 bucks out of Hams in an impulse-buying situation is truly a miracle. I am running the speaker mobile in the Honda and it is just great! So if you are working on cutting down the mobile noise on the HF bands, find someone who has one of these installed and get them to give you a demo of the speaker.... you will really be surprised at the results."

I was pleasantly surprised when I got mine a year ago. See this column in December 2000 *Worldradio* for my similar comment.

Finally, a couple of days ago, several of us were on 2 meter simplex, caravaning back from a Ham club campout, when Jim Bremer, KE6OUA, broke in. He had just flown back from Las Vegas and was headed home to Redding, the opposite direction from us on I-5. He recognized my call from reading the HF Mobile column in August *Worldradio* on the flight. Readers are where you find them. If you are wondering, I was on HF mobile during the campout, but there are times when FM is more practical.

Let me hear from you on any HF mobile subject! Send e-mail to *w6tee@qsl.net*, or write: Les Cobb, 4114 Horgan Way, Sacramento CA 95821. More at *http://home.pacbell.net/lcobb/*.

Search And Rescue

Jerry Wellman, W7SAR

Recent e-mail viruses have certainly pointed out how fragile our electronic communications can be. Some Internet sites were so affected they were down for several days while others felt only the increase in mail traffic. My employer has dedicated enough funds to our electronic systems that we only noted the increased mail traffic and sailed through with nary a problem. It also helps that we use Unix and Novell servers and shy away from that other operating system that is prone to hacker attack.

The lesson I would point out is that reliability (and flexibility) is not magical and it takes dedication of resources. In a commercial (or government) enterprise, that usually means funding and on-site, trained employees. Some local companies discovered the chief problem with a contracted "consultant-based" technical department. If there is a widespread event (such as the recent virus attacks) your consultant may not be immediately available. In fact, it may be days before they get around to you.

In the volunteer community, and especially with communications, our strength comes both from numbers and from experience. As a group, we are our own technicians and specialists. We're self-policing and self-maintaining. Within our ranks we have talent to diagnose and usually correct problems. And we do it quickly and efficiently.

Learn new skills

At a local ARES meeting some time ago, we were having a mini-packet network demonstration and training session. We set up several packet stations for the meeting and then received hands-on experience as to how a local emergency net would look in its digital format. We were also taught how to use a bulletin board and how all the parts of a station were connected. Finally, we spent about 15 minutes learning about the most common troubles a packet operator might encounter.

One of our members leaned over to me during the class and commented that this was a waste of time for him because he didn't have a packet station. He basically dismissed the whole training session as something not needed. As we discussed the purpose of the training, I explained that many emergency centers already had packet radio installed. While everyone at the class might not have their own packet station, they might be assigned to an EOC with a packet connection. As he realized this, the light went on toward the value of the training.

Training exists to create expertise. The more you know, the more valuable you are in any emergency scenario. If you can operate HF, packet, voice, net control, simplex, etc., you become adaptable to the needs where you are assigned. You can slide over and take up the slack when things get busy. One of the Amateur Radio strengths is our ability to adapt and move into critical roles because we have been trained and have expertise in many areas of communications.

Nationwide Internet emergency?

You might think the value of Amateur Radio is a well-kept secret. I was surprised to find mention of Amateur Radio in a recent edition of *InternetWeek*. Columnist Wayne Rash made mention of the potential use of Amateur Radio as a backup to Internet and telephone services.

The concept originated with the SANS Institute. SANS is short for System Administration, Networking, and Security. The idea is that some kind of virus or denial of service attack would cripple the Internet and global telecommunications to the point that an emergency would exist needing a method of getting information out to major service providers as to how to combat the attack. A logical medium would be Amateur Radio, both voice and packet. One value, Rash said, of Amateur Radio is that we're not connected to the Internet or the phone system. In short, we can operate independent of any affected system.

This is what I liked best: "The implication was that the institute was expecting some short of attack that could bring down the Internet and phone system, leaving only Amateur Radio for critical and emergency communications. On one hand, this plan made sense, since the hundreds of thousands of radio operators around the world spend much of their time building a redundant, stable and reliable communications network that's essentially immune to disruption."

I liked that part about redundant, stable, and reliable! So now the word is out to information managers, that Amateur Radio is of worth! The columnist also said: "And maybe you should encourage your technical personnel to get their Ham radio licenses, just in case it becomes necessary." He then gives the ARRL's web address and also quotes the League's president concerning Amateur Radio role in emergencies. What great publicity!

In case you're interested, check out the SANS web site (www.sans.org) and go to their forums section. There is a special forum for emergency communications where this idea is being debated. In reading through it, I felt

great knowing others had such high opinions and expectations of us. But then I already know Amateur Radio's capability and know that if the emergency strikes, the networks will already be in operation.

Normal operations

With all of the fires around the West recently, the odd hurricane or tornado, it's been great to hear the activity around the country as Amateur Radio operators swing into action, often without notice or recognition. Some local fires have kept ARES members busy as well as involvement as the Olympics fever spreads for the 2002 Winter Games.

It's almost become routine to hear of volunteer radio involvement and it's wonderful to listen to and hear reports from those involved. I'm noticing a greater involvement also in technical issues and better understanding of the basics, such as the value of a good antenna. There was a discussion on a local repeater where two operators were testing various antennas. Once they found what worked well, it was good to hear them switch to simplex to see if the antennas would reach. I love to hear people experimenting on the air with various elements of a station. That's the key to Amateur Radio having fun, experimenting, and learning.

I found a UHF antenna on an Internet auction site and purchased it for a very low price. The price was low because the advertised range of the antenna was 400-420 MHz. Now we all know that's below where the Amateur Radio stations are, yet the price was too good to pass up. When it arrived, it was a commercial 5/8 wave antenna. Better yet, the company also made the same model that covered various segments of the UHF spectrum up to 470 MHz.

Doing a little research, I discovered that the replacement parts for each of the various models were similar. The tuning stub, the matching segment, and the mounting hardware were all common and non-adjustable between models. Since I know the Amateur UHF band would require a SHORTER antenna than what I had, this would be an ideal experiment. (I learned long ago that it's easier to shorten an antenna than lengthen it!)

I first called the company and tried to discover from their technical services if they had the various measurements for the models covering the different UHF band segments. I discovered they did not (I guess all the antennas are made in a faraway place and all the technical people are there, too). My next try was to do an Internet search for 5/8 wave antennas, and it wasn't long before I found technical information on similarly designed base antennas.

You might guess the information was on an Amateur Radio Internet site, and it was easy to learn the various design factors for a 5/8 wave UHF antenna. In short order, I was able to tune the antenna into the Amateur band and have a very low standing wave ratio. In essence, I obtained a very well-manufactured antenna for a low price and, best of all, learned a little antenna theory as I made the modifications.

My challenge now is how to convince my loving wife (K7UTE) that our house needs another antenna. Please take the time to experiment and explore technology. The example above is what I love about this hobby that of trying new things and learning how things work. The UHF antenna won't really wind up on my house, but will be added to my grab-and-go gear for a great emergency antenna.

Until next issue, have fun and keep busy doing good things! Best wishes from Salt Lake City!

—Jerry Wellman, W7SAR, our Search and Rescue columnist can be reached by sending snail mail to: P.O. Box 11445, Salt Lake City, Utah 84147, or by e-mail to: jw@desnews.com

Inside Amateur Radio

The following story has been excerpted from Inside Amateur Radio, by the late Lenore Jensen, W6NAZ. The book can be purchased from Worldradio Books, P.O. Box 189490, Sacramento, CA 95818. Price is $9.00 plus $2.00 shipping and handling. CA residents please add 70¢ sales tax.

Isolated communicators

A rare glimpse into the routine of POWs in North Viet-Nam revealed their remarkable ingenuity. Bill Webb, NK6H, reports on a talk given the Naval Postgraduate School Amateur Radio Club in Monterey, California, by Rear Admiral Robert H. Shumaker, the Superintendent of the school.

"The Admiral explained he had been a licensed amateur in the late 50s and enjoyed participating until the press of military duties left him no time for his hobby.

"He was shot down while flying a mission over North Viet-Nam in 1965 and spent the next eight years as a prisoner of war. He emphasized the importance of communications in the POW situation. Each man was isolated, which enabled the captors to interrogate a POW without the influence of the other Americans to resist.

"Yankee ingenuity came into play when the men developed a system for communication among themselves even in their isolated cells. One method used a grid for the letters of the alphabet. Two groups of taps (dots) indicated which square of the grid was being identified. For instance, the first group of taps would indicate the horizontal row and the second group the vertical column. Thus, they could slowly tap out letters.

"Messages could be passed by the originator and receiver with relays by intervening cells. Actually, lengthy communication sessions were held. One POW had an electronics background, and a question was posed to him about how to repair a particular problem on an imaginary color TV. The tapping went on for days.

The first group of taps would indicate the horizontal row and the second, the vertical column. For example, to send "Bob", they would tap out • •• (B) ••• •••• (O) • •• (B); there would be a short pause between each of the two groups and a longer pause between each letter.

A	B	C	D	E
F	G	H	I	J
L	M	N	O	P
Q	R	S	T	U
V	W	X	Y	Z

"Another POW wanted to learn how to speak French. Admiral Shumaker had some French proficiency and he agreed to undertake this project; so it began — five words of French a day. After several years of this, his vocabulary began to run dry. One day he found a page from a French magazine that was being used for toilet paper. This increased his French vocabulary by 500 words.

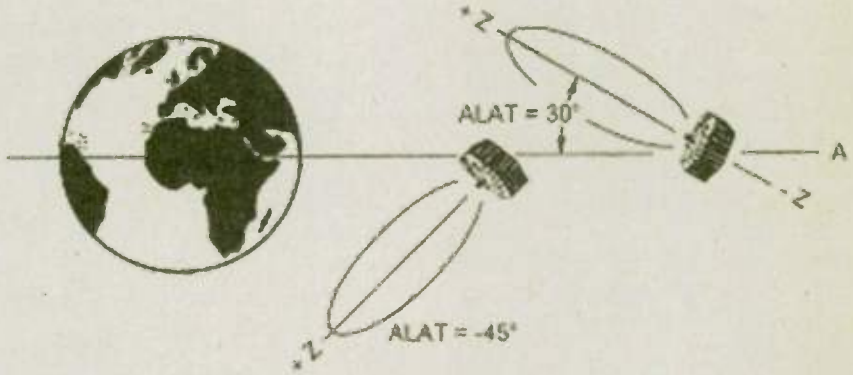
"Another man wanted to learn how to play the piano; a fellow prisoner was a pianist. A length of toilet paper was surreptitiously obtained. A full piano keyboard was reproduced on it and the then "piano" was slipped to the aspiring student. The lessons began by the grid/tap system. One day a POW tapped out how low he was feeling. Back came the answer from the student, 'Let me play some happy music for you.' Naturally, they adapted their grid of the alphabet for chess, as well.

"The Admiral explained that such communications, even at the most basic level, served to hold these men together and fight off propaganda attempts by the North Vietnamese to break their spirits.

"Punishment was severe if they were caught communicating.

"No doubt his earlier experience in Amateur Radio was partly responsible for this exercise. He stated the communication between the POWs was their lifeblood."

AO-40 alive again, new satellite set to launch



Hello everyone! Fall is here, probably my favorite season of the year. In my part of the world, it's definitely the most beautiful as the trees begin to change. Another beautiful thing is that we're learning more and more about AO-40 and what it will mean to the world's amateurs. As commissioning continues, the control operators are evaluating the multitude of telemetry data, and determining what has been happening.

Shortly after I wrote my last column, the control operators ended the initial transponder use so that changes could be implemented for the cold firing of the arcjet motor. Cold firing means opening the gas jet, allowing ammonia to be released. This would propel the satellite, but not as much as if the engine was ignited. A problem, called "a mysterious force," by AMSAT-NA President Robin Haighton, altered the satellite's attitude when it passed through perigee. It was hoped that the cold firing would place the satellite in a higher altitude at perigee.

In fact, following the outgassing, the perigee height raised from 280 km to an oscillating range that varies from 810 to 1,260 km. Apogee height remained unchanged at 58,791 km. All of the 53 kg of on-board ammonia appeared to have been used during the orbital change. Since orbit 302 the ammonia stopped flowing and the pressure indicators in the received telemetry show no additional pressure.

Stacey Mills, W4SM, of the ground team said it's "quite possible" that an ammonia leak accounted for the unexpected loss of ammonia. "If we did have a slow leak, it is very fortunate we did not wait any longer to use the remaining fuel," he said.

The command team is now looking at what is next for AO-40. The momentum wheels have not yet been tested and the decision to deploy (or not deploy) the solar panels is under investigation. The primary goal remains to get AO-40 back into an orientation where the transponders can be operational and RUDAK testing can be completed.

However, in mid-July, AO-40 command station operator Stacey Mills, W4SM, announced on the AMSAT-NA bulletin board what many operators were hoping to hear — AO-40 transponder operation was again underway!

W4SM announced the U/L1 to S2 passbands were again active from MA=10 through MA=99. The current ALON/ALAT will give some very low squint angles (especially in the Northern Hemisphere) that should provide excellent signals.

AO-40 transponders come back to life

AMSAT Awards Manager Bruce Paige, KK5DO, in Houston, was among the first stations to get on AO-40 after the transponders were reactivated. "It sounds awesome," Paige said. In addition to some domestic contacts, he and his daughter, Mahana, W5BTS, worked EA8/DJ9PC in the Canary Islands. Dave, WB6LLO, reported great signals from AO-40 as the transponders went active. Dave worked VE3NPC and 4X1AS, in addition to stations in Japan and Australia. Jerry, W6IHG, reported making 12

contacts. Renato, CE3XK, was also active, working several stations with received downlink signals around S5.

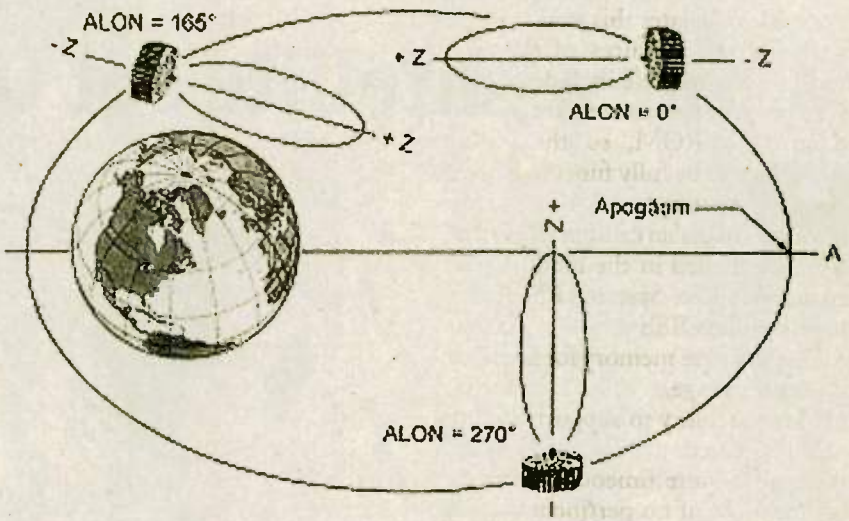
Unfortunately, after further testing was done, it appears that the "Mystery Effect" is still quite present and unaccounted for. Analysis by G3RUH showed that the effect was only slightly reduced from measurements made before the outgassing of the arcjet. It's odd though, since the current data appears to eliminate atmospheric drag as the source of the problem, as was thought before the outgassing. The data also seems to rule out magnetic effects as well. The command team is continuing to study the telemetry archives to try and determine just what is happening.

There is life outside of AO-40 however. Nick Lance, KC5KBO (the ARISS volunteer at the JSC Amateur Radio Club who coordinates astronaut training), noted that Frank Culbertson, commander of the third ISS Expedition, has been licensed as KD5OPQ. Be looking for him on the air!

Don't forget — if you're interested, come to Atlanta for the 19th Space Symposium and AMSAT-NA Annual Meeting this October! The gathering will be held 5-6 October 2001 at the Holiday Inn Select, 130 Clairemont Ave., Decatur, GA. Symposium Chairman Steve Diggs, W4EPI, has promised a wonderful program for all — check out the AMSAT-NA web site at www.amsat.org for up-to-date info on speakers and times.

Software

Version 1.40 of AO40Rcv is available. Changes include removing the beep sound, adding new wave file processing features and removal of the 30Hz deadzone in the doppler tracking algorithm. This will be the final version of this program via AE4JY, who is moving on to other projects. AE4JY is looking for someone to take over development of AO40Rcv, with the condition that it remains openly available to the Amateur Radio community. Details and program availability are at *http://www.qsl.net/ae4jy/*.



Also, in software news, John, KD2BD, has released an updated version of Predict, a popular satellite tracking and orbital prediction application for the Linux operating system. Predict version 2.1.4 includes the following changes from the previous version:

* An array overflow problem in the Solar Illumination Prediction mode has been fixed.

* Pressing [R] in either the Single or Multi-Tracking mode forces Predict to re-read the orbital database. This will be useful if the database is updated manually through available Predicts update options while the program is running. This will eliminate the need to re-start the program under such conditions.

• Real-time tracking is no longer attempted for satellites that appear to have decayed from orbit.

• Several new options were added to the 'F' command-line switch. If no starting or ending date/time is specified, a single line of output corresponding to the current date/time is produced

• Multiple Keplerian element data files may now be used as arguments for the 'U' command-line switch.

• Several network client applications were added or otherwise revised.

• The configuration and compilation process has been modified slightly to reduce confusion during installation.

Best of all, Predict is free software! The program can be found at *ftp://ftp.amsat.org/amsat/software/Linux/predict-2.1.4.tar.gz*

The Predict homepage is located at *http://www.qsl.net/kd2bd/predict .html*

New TNC for ISS

AMSAT's Frank Bauer, KA3HDO, reported that the ARISS-US team recently delivered a new packet module to NASA. This new packet module is expected to correct several of the problems that have been observed with the current ARISS packet system.

The new equipment was to go thru inspection and testing before being flown to the ISS on Shuttle Mission STS-105, planned for launch in early August 2001. Hopefully all went well with the launch, and that the equipment arrived safely.

Expedition-3 astronaut Frank Culbertson, KD5OPQ, planned to make the packet module change-out early in his ISS tour of duty. The current packet module will stay on Alpha where it will

serve as a power supply for the 70cm station that will be installed in the Service Module later this year.

Some of the features of the new ARISS packet module include:

- All pertinent parameters are embedded in the PROM, so the packet module should be fully functional even with a dead battery.
- The new Russian callsign (RSØISS) has been installed in the module. The Personal Mailbox System (PMS) uses the callsign RSØISS-1.
- A 1 megabyte memory for adequate PMS data storage.
- 8-bit capability to support Russian Cyrillic typesets.
- A one-minute timeout disconnect from the PMS if no pertinent packets are heard.

AMSAT-NA President Robin Haighton shared some information concerning AMSAT's next satellite project, currently known as "Project JJ."

A meeting was held recently in Denver, Colorado, attended by twenty of AMSAT-NA's designers and officers. Their main objective was to begin implementation of this project, as mandated by the AMSAT-NA Board of Directors. One very significant decision made was to make every aspect of this new satellite (as it is being designed) completely available to the AMSAT community. This means every drawing (including schematics), every piece of code and all telemetry details, etc. The only details which will not be released are those which would possibly endanger the security of the spacecraft when in orbit (should hackers become active on the bird), and any proprietary commercial data.

The project will be an "open concept" design and the project committee will welcome your constructive feedback as the project progresses. Paul Williamson, KB5MU, will be posting all project information on the AMSAT-NA web page and Russ Tillman, K5NRK, will be writing an initial article for the *AMSAT-NA Journal* — with more articles planned as plans progress. Lyle Johnson, KK7P, and Chuck Green, NØADI, have agreed to act as joint managers at the start of this project.

At the meeting a review of the Phase 3 series of satellites was undertaken. Discussion took place on advantages and disadvantages — things that should be repeated and things can be improved on. Such a review is a very valuable part of the design process.

Some of the decisions made at the meeting included:

1. Sideband uplinks on L and U bands with a S-band downlink;
2. Digital communications (TDMA) L-band uplink with S-band downlink;
3. V-band telemetry beacon;
4. Gain antennas for U, L, and S-bands;
5. Omni-directional antennas (for initial commands);
6. Propulsion system only if absolutely necessary. This is a function of yet undetermined launch dynamics and may require some form of cold gas propulsion system for perigee adjustment. A decision on this will be made in the near future.

Launch of "Project JJ" is hoped for early 2004.

PCSat

Bob, WB4APR, reported that the launch of PCSat in early September 2001 will represent a new direction for Amateur Radio satellite communications. PCSat will offer distant travelers the ability to send and receive satellite message traffic and to report position and status from anywhere on Earth using only a handheld radio. "No Ham traveler heading to the wilderness should leave home without his shirt pocket APRS handheld or other portable packet station," said WB4APR.

PCSat will use conventional APRS packets at 1200 or 9600 baud, and is designed to work with handhelds or mobiles using omni antennas.

He noted that PCSat has a specific mission, and will take an unusual step in the Amateur Satellite service by publishing user station requirements and asking users to adhere to those requirements. Bulletins from the satellite will inform users of current requirements.

Steve, K4HG, will be putting together a special PCSat web page, which should be up by the time you read this. In addition, to see the current world map of APRS connectivity, visit: *http://www.aprs.net*

The design parameters of PCSat can be found at: *http://web.usna.navy.mil/~bruninga/pcsat.html*

Information about APRS satellites can be found on the WB4APR web site: *http://web.usna.navy.mil/~bruninga/astars.html*

This should be an exciting new addition to the amateur satellites we have available for our use!

Well, I'm about out of room for this installment. It's getting exciting again in the world of amateur satellite operation, so if you're so inclined, jump in and join us! It's a lot of fun. Until December, hope to see you on the birds!

— Terry Douds, N8KI, our high-flying columnist can be reached by sending snail mail to: 344 E. Fifth Ave, Lancaster, OH 43130-3143, or by sending e-mail to: tdouds@cojazz.com

Chuck Imsande, W6YLJ

Convention highlights

As scheduled, the 2001 10-10 Convention took place at the Holiday Inn in Worchester, MA on 12-14 July 2001. Attendance was slightly over 225 with 185 attending the Saturday night banquet. Twenty-three chapter tables were in full operation with chapter representatives signing up new members and giving out upgrades.

A historical tour of Boston and the surrounding area took those interested on an all-day bus tour of the sights of the area. The bus was sold out and 54 of the attendees had a full day of seeing what "Bean Town" Boston was all about.

The 10-10 Club Station, W6OI #109, was in operation and made many contacts in addition to the parking lot net. Thanks to a great job by Ed, W1KT #59148, in installing the antenna for the club station on the roof of the Holiday Inn, and to Ruth, NØKDB #48715, for being the net control for the parking lot net.

A VE testing session was held and close to 20 took various tests with a large percentage passing their exams. One attendee qualified for 10-10 membership by making ten 10-10 contacts on the club station and was awarded 10-10 number by Data Manager, Gerry, WA6POZ #21274.

A surprise visitor, Dave Sumner, K1ZZ #04852, ARRL Executive Vice President, dropped in to renew old friendships and pay a visit to the Board of Directors meeting. There were also several other ARRL officials in attendance.

You can view a great set of convention pictures on Ruth's (NØKDB) web page. Go to: *www.geocities.com* and click on the convention button. You can view some of your friends and see what all those folks you have been talking to on the radio really look like. A great job by Ruth, NØKDB #48715, and OM Art, NØKDA #47266 for a great memory of the good time in Worchester, MA.

Ken Harmon, K1IEQ #31363, and his able staff put on one of the best 10-10 conventions yet. It will be hard to surpass the activities, surprises and events offered by this group of volunteers. A big "Thank you" to all who helped Ken make this convention a success.

Board of Directors meeting highlights

While convention attendees were enjoying all of the activities of the convention, the Board of Directors of 10-10 held their annual meeting beginning with a pre-Board meeting on Thursday night, followed by the regular meeting all day Friday, 13 July. All Board members were present except for Secretary Dave Prichard, K5OVO, excused due to illness.

President Imsande requested a moment of silence be observed in honor of all 10-10 members who became Silent Keys during the past year. Especially noted was Tom Henderson, K4CIH #33233, President, and Morie Goldman, W6EHM #04189.

Annual reports were presented by each Officer and Director. In addition, the Treasurer's annual report and budget for 2002 was presented by Treasurer Keith, KR7RK, as well as the Data Manager report by Gerry, WA6POZ, and the Editor's report by Steve, NØWY, Editor of the *10-10 International News.*

A discussion was held regarding the present procedure for sending dues renewal notices. A revised procedure will be adopted wherein additional follow-up notices will be sent to those members not responding to the first or second reminder that their dues was to expire, or had expired. It was agreed by all that maintaining an active paid-up membership was of prime importance in order to continue the programs of 10-10 for the best interest of the members. The membership has been rising during the last couple of years, but there was concern that with propagation on the downside, this trend may not continue. It was pointed out that every organization needs paid membership to continue to be active and promote the organization.

President Imsande presented the Articles of Incorporation and Bylaws for the 10-10 Scholarship Foundation. The purpose of the Foundation is to ensure 10-10 has a mechanism in place to solicit tax exempt donations to sustain the monies necessary for providing continuing scholarship funding for deserving Amateur Radio students who wish to attend college. A motion passed to accept the Articles of Incorporation and another motion was passed to elect the present officers of the 10-10 International Net, Inc., as the officers of

the 10-10 International Net Scholarship Foundation. A question came before the Board as to the clarification of the FAR Scholarship award rules as they pertain to an awarded scholarship being used outside of the United States. This will be investigated with FAR and reported to the Board.

President Imsande reported on appointments made over the last few months. These include Mike Elliott, K7BOI, as Vice President, Director Larry Berger, WA2SUH, as Scholarship Manager, Mike Davidson, N5MT, as Countries Award Manager, and Cliff Taylor, WB4FBS, as Worked All States Manager. A motion passed accepting all appointments. A motion was made to establish a position of Data Verification Manager. This passed and Don Ruf, KBØON was confirmed to that position, an informal position Don has held for approximately 18 months.

In accordance with Section 5 of the 10-10 Bylaws, stating 10-10 membership shall be canceled upon the revocation, cancellation or suspension of an amateur's radio station privileges, a motion was made and passed that the 10-10 number of K4QIJ (#13463) was canceled and retired. K4QIJ has had his license canceled by the FCC.

A discussion was held regarding the need for a complete integrated Awards Data Management computer program to maintain accurate award informtaion. A proposal for a computer program to accomplish the function of Awards Data Management will be solicited from interested 10-10 members who have programming experience.

A clarification and re-write of the policy regarding QSL Party Certificates was discussed and Director Bob Peschka volunteered to re-write and update the Certificates section of the Operations Manual, which in turn will appear in the QSO Party Brochure. This has been accomplished subsequent to the Board meeting and will be implemented for all QSO Parties for which certificates have not been issued.

A detailed discussion was held regarding improving the use of the 10-meter band. It was seen as limiting that many Hams are restricted to phone frequencies between 28.300 and 28.500 MHz. It was the consensus of the Board that the phone portion of the band should be opened up to all amateurs with 10-meter privileges from 28.300 to 29.700, observing the current band plan for Satellites Downlink, FM, etc. President Imsande was charged with the task of coordinating this effort with ARRL and requesting their support as a joint effort.

A visitor joined the Board Meeting - ARRL Executive Vise President Dave Sumner, KIZZ #04852. He dropped by the convention to renew old friendships and took the opportunity to visit with the Board and answer questions. The idea of opening up the 10-meter band was discussed. Dave stated that the current restriction was a holdover from the days of "Novice Enhancement" and he felt the ARRL Board would be open-minded on the subject and this could be an activity that 10-10 and ARRL could possibly work together on. He stressed that ARRL is interested in 10-10 views and would welcome comment on the subject. Other items of interest of both 10-10 and ARRL were discussed.

With the above you have a summary of the important items discussed at the Board of Directors meeting. I am sometimes asked, "What does the Board actually do?" I hope that the above gives you a clear view of the details that the Board addresses at each Board Meeting. As a reference of time taken by the Board to address the above and other items not mentioned, a pre-Board meeting is held the evening before the formal Board Meeting. This usually runs from 7 p.m. until approximately 11 p.m. Things of a larger scope are usually discussed and a meeting of the minds is solicited. The complete set of minutes of the Board Meeting will be published in the October 2001 issue of the *10-10 International News.*

Scholarship program

We have been successful in obtaining approval from the State of California for a new public benefit corporation to be known as The 10-10 Scholarship Foundation. This new corporation will be the backbone of the 10-10 Scholarship Program. We have recently received the IRS approval for a 501(c)(3) tax exempt status. This confirms that any donation to the 10-10 scholarship fund will be tax deductible. This is a big step forward in 10-10 securing more and larger donations to fund the five $1,000.00 scholarships awarded each year.

If you would like to support the 10-10 Scholarship Foundation with your tax free donation, please send your check to: Larry Berger, WA2SUH #407, Scholarship Manager, 9 Nancy Blvd., Merrick, NY 11566-3119. Your help in this worthwhile program is appreciated.

Information about 10-10?

You can also find just about anything that you need to know about 10-10 on the 10-10 web site. The address is: *www.ten-ten.org.*

— Chuck Imsande, W6YLI, can be reached by sending snail mail to: 20815 Desert Sands Drive, Sun City AZ 85375-5443 or by e-mail at: w6ylj@arrl.net.

Bill Sexton, N1LN

Can we handle four in a row?

It happened long ago but for emergency planners and their allies in the Ham world the date is one to remember: 16 Dec. 1811. That's correct, 1811.

Early that morning, the most powerful earthquakes yet recorded in this hemisphere began convulsing America from the Atlantic to the Rockies. Temblors persisted into February of 1812, eventually altering the Mississippi River's course and otherwise changing the terrestrial landscape where Missouri, Arkansas and Tennessee meet — and spreading panic across the young nation.

Chimneys fell in Richmond, VA. Buildings cracked in Savannah, GA. Church bells were set to ringing in Boston. In southeastern Missouri, near the epicenter, the hamlet of New Madrid simply disappeared (and gave its name to the deadly New Madrid fault).

The cities of Little Rock, Shreveport and Kansas City did not yet exist, of course, but otherwise probably would have been obliterated, along with Memphis and possibly Nashville.

What if it happened again along the same, still-active New Madrid fault line? In the now-populous, industrialized Mississippi Valley, crisscrossed with pipelines, Interstate highways and river navigation dams?

With input from earthquake specialists based in Memphis, the Army Military Affiliate Radio System staged a remarkably realistic communications test 13-16 July based on a fictitious quake of 6.6 on the Richter scale (1811's is estimated at 8.0 or higher) centered in the same area.

But what if this simulated catastrophe had hit less than a month after a major hurricane ravaged the Atlantic coast from Florida to North Carolina and thence inland? And was followed a week later by another earthquake along California's San Andreas fault? And then by a major storm in Hawaii?

That's the stuff of implausible nightmares. But it provided the very plausible script for last summer's unprecedented test of MARS response to *serial* disaster (as contrasted with single, spaced-out calamities.)

Participants included not only MARS members of all three services but also government and relief agencies from the Army Corps of Engineers to the American Red Cross to individual state EOC's and the Federal Emergency Management Agency (FEMA). Of equal significance, this comprehensive domestic call-up was conducted in conjunction with the Army Signal Command's worldwide communications exercise code-named Grecian Firebolt 2001.

MARS GF01, as it came to known, got underway 16 June with a fictitious hurricane "Roberta" following the track of an actual 1955 storm that impacted the Virgin Islands, Puerto Rico and 11 states. During the exercise's 10-day run, 272 stations from 23 states participated in simulated reporting and relief operations, responding to real-time weather advisories.

In an advance on past exercises (and not the only one), a field command station was deployed from the United States Army Signal Command at Ft Huachuca AZ to coastal Virginia. Army MARS Chief Robert Sutton, N7UZY, (military call AAA9A), and Eastern Area Coordinator Robert Hollister, N7INK, (AAA9E), erected and manned the portable "flyaway" unit, handling voice and digital traffic via the Army MARS eastern gateway at Fort Detrick, MD.

"Disaster" struck again 13 July in (as the script described it) "an area on the southern end of the New Madrid fault...Seismic detectors in this area have detected numerous small earthquakes over the past several years...."

In fact, an *actual* quake of 3.0 on the Richter scale was recorded during the exercise. And that wasn't the only surprise. To inject an atypical element of uncertainty into the scripted scenario, exercise planners suddenly created a second major earthquake reaching into the Ohio River Valley and requiring close-in response from operators outside the original damage zone. During the four-day operation, 87 stations participated from 23 states.

The second simulated earthquake, 20 July, brought an authentic possibility

in the seismic real world and not at all unprecedented for southern California. The 7.6 scale quake was centered near Lancaster, CA, and impacted Nevada and Oregon as well as northern California. It brought a response from 94 MARS stations in 14 states over the three-day weekend.

It was only a coincidence, but a very motivating one: like the Mississippi Valley a month before, northern California, too, experienced a minor but very real quake during GF01.

"The exercise went well and captured the attention of many members who may have had doubts of the possibility of a disaster ever actually happening," commented Western Area Coordinator James E. Banks, KK7RV, (AAA9W). In particular, he said, it demonstrated the usefulness of VHF packet systems in speeding traffic and proved the importance of MARS' two 24/7 gateway stations during an emergency.

This summer of simulated disaster wound up 3-6 Aug. with the kind of event that normally attracts little attention on the mainland, a Pacific hurricane. It was scripted to sweep western Oahu and southeastern Kauai, causing heavy damage and disrupting communications. Responding, 16 MARS stations were joined by three Army and one each Navy and Air Force station.

Mainland support came from members in Washington and Wisconsin as well as the Fort Huachuca gateway where, Banks said, operators did "an excellent job receiving and forwarding both voice and digital traffic to the office of Chief Army MARS." (Operators there and at the Fort Detrick eastern gateway are licensed Hams working under contract to the Army with military MARS call signs.)

Looking back over the summer, area coordinators Hollister and Banks commented, "the preparation and planning for these exercises was outstanding and all who participating are to be congratulated."

The purpose, of course, is also to find shortfalls. State and area managers didn't stint on that, citing deficiencies ranging from incomplete propagation reports to shortage of net control stations. Lack of backup equipment was also cited as a potential problem in a real emergency, especially antennas.

"Some members found out that although their radios will operate off battery power, their automatic antenna tuners and switches will not," said Bob Hollister, Army MARS Eastern Area Coordinator.

Bob Sutton, Chief Army MARS, summed it all up: "This four-phase MARS exercise was by far the largest in geographical scope and the best-executed emergency communications exercise that MARS has witnessed in its 76-year history. The number and diverse group of disaster relief agencies involved and the participation by the MARS membership of all three services was a significant accomplishment. The interoperability between the services and other disaster relief agencies was most noteworthy. All that were involved with the planning and execution can be justly proud of their accomplishments. It has raised the bar to a new level by setting a new standard. Once again proving that MARS is in fact "Proud, Professional, and Ready"

— Bill Sexton, N1IN, can be reached by sending snail mail to: 105 West Rd., Richmond, MA 01254; or by e-mail at: sextonw@juno.com.

At Lexington, Ky., five amateurs representing Army, Air Force and Navy MARS established an emergency station at the Army Reserve Center. It was interoperability at its best: NNNØLES (Navy) brought his packet station and relayed simulated emergency traffic to AFA2SW (Air Force), who provided relay onto an Air Force HF packet network and on the Army destinations. The team set up three rigs, was on the air for the entire 33 hours of the New Madrid earthquake exercise, and processed 63 messages.

Visit Your Local RADIO CLUB

ALABAMA

Tuscaloosa ARC. Meets 2nd Mon./monthly, 7 p.m., Red Cross Bldg., 15th St., Tuscaloosa, AL. For info: David Drummond, W4MD, (205) 339-7915, trustee for W4KCQ, 146.82(-) (118.8) 4/02

ARIZONA

Arizona Repeater Association, Inc. Operates 24 VHF-UHF rptrs. in AZ. Meets 4th Thurs./monthly, 7:30 p.m., 2124 W. Cheryl Dr., Phoenix, AZ, North entrance. Info:D. Baize (602)542-7950 or:www.arizona-repeaterassociation.org 2/02

Cochise Amateur Radio Assn., (CARA). Meets 1st Mon./monthly, 7:30 p.m. at club facility on Moson Rd., Sierra Vista, AZ. K7RDG/R 146.76(-)rptr.PL162.2. 8/02

CALIFORNIA

Amador County ARC. 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 95642. Info: 146.835. 9/02

Contra Costa Communications Club, Inc., WD6EZC/R. P.O. Box 20661, El Sobrante, CA 94820-0661. Meets 2nd Sun./monthly (except May & Dec.), 08:00, Denny's, El Cerrito, CA. 145.110 PL 82.5 Info: S. Clark, KB6SEI, (510) 724-0158. 7/02

Downey Amateur Radio Club Inc., W6TOI. Meets 1st Thurs./monthly, 7:30 p.m., So. Middle Sch. cafetorium, 12500 S. Birchdale, Downey, CA. VHF net W6GNS rptr. 146.175(+) Thurs.,7:30 p.m. http://www.downeyarc.org. Info L. Vaughn, kd6nzw at kd6nzw@downey-arc.org 8/02

El Dorado County Amateur Radio Club. P.O. Box 451, Placerville, CA 95667. Meets 4th Tues./monthly, 7:15 p.m., Federated Church, 1031 Thompson Way, Placerville. Web: http://edcarc.tripod.com. Net: Thurs., 7:30 p.m. 147.825(-) PL 82.5 9/02

Fresno Amateur Radio Club. Meets 2nd Fri./monthly, 7:30 p.m., Ernie Pyle School, 4140 N. Augusta, Fresno, CA. 146.94(-) 223.94(-).1/02

Garlic Valley ARC (GVARC). Meets last Sat./monthly, 8 a.m., The Little House Restaurant. Exit 101 at Monterey Rd., Gilroy. Info: Tony Armendariz, AD6ID@arrl.net. Talk-in: 147.825/-600KHz K6THR/R 7/02

Golden Empire Amateur Radio Society, (VEC). P.O. Box 508, Chico, CA 95927. Club call W6RHC, rptr. 146.85(-). Meets: 3rd Fri./monthly, 7:30 p.m. at 346 Cherry St. (Library Rm.), Chico. 7/02

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(+). Info: LARK Sec., P.O. Box 3190, Livermore, CA 94551-3190.(925)373-1386. 2/02

Marin Amateur Radio Club. Box 6423, San Rafael, CA 94903. Meets 1st Fri./monthly, 7:30 p.m., also every Sun., 8 a.m. to 11 a.m. at Alto Clubhouse, 27 Shell Rd., Mill Valley, CA.Website:W6SG.Net 7/02

Nevada County ARC. Meets 2nd Mon./monthly, 7 p.m., Salvation Army Bldg., 10725 Alta St., Grass Valley, CA. Net Tues. 7 p.m. 147.015. Info: George, KQ6SA, (503) 447-2295, www.NCARC.-org 4/02

North Hills Radio Club. Meets 3rd Tue./monthly, 6:30 p.m., Arcade Lib.,Marconi near Fulton, Sacramento, CA. Nets 8 p.m. Tue., (except 3rd Tue.) & Thur., 145.19- PL 162.2, 224.40-. Info: (916) 944-1464. nhrc@k6is.org, http://www,k6is.org 4/02

Orange County ARC. Meets 3rd Fri./monthly, 7:30 p.m., Orange County Red Cross, 601 N. Golden Circle, Santa Ana, CA. Talk-in 146.550 (S). Contact Bob Buss, KD6BWH, (714) 534-2995, www.w6ze.-org 4/02

Poinsettia ARC. Meets 1st Thurs./monthly, 7:30 p.m., First Christian Ch., Telegraph Rd. & Teloma Dr., Ventura, CA. Info: Geo. Myers, (805) 644-1131. 9/02

River City A.R.C.S. Meets 1st Tues./monthly, 7:30 p.m., Sacramento Society for the Blind, 2750 24th St., Sacramento, CA. License classes offered. Info: (916) 492-6115. 10/01

Sacramento ARC. Meets 2nd Wed./monthly, 7 p.m. Sac. Blood Ctr., 32nd St. & Stockton Blvd., Sacramento, CA. Info net, noon on rptr. W6AK/R 146.91(-). T. Preston, KQ6EO, (916) 722-9358 or L. Ballinger, WA6EQQ, (916) 393-4775. http://k6ekb.net/sarc/ 9/02

Sierra Foothills ARC. P.O. Box 1005, Newcastle, CA 95658. Meets 2nd Fri./monthly, 7:30 p.m., Auburn Library (Beecher Rm.), 350 Nevada St. Thurs. nets 7:30 p.m. 145.430(-) PL 162.2. Info: M. Diridoni, mdiridoni-@rsvl.net 8/02

Sonoma County Radio Amateur, Inc. W6LFJ, P.O. Box 116, Santa Rosa, CA 95402. (707) 579-9608. Meets 1st Wed./ monthly, 7:30 p.m., Agilent Tech., 1400 Fountain Grove Pkwy, Santa Rosa. Net each Tues. 7 p.m., W6SON. Rptr. 146.73(-) PL 88.5. www.cds1.net/scra 2/02

Stanislaus Amateur Radio Assoc., Inc. (SARA). P.O. Box 4601, Modesto, CA 95352. Meets 3rd Tues./monthly, 7:30 p.m., Modesto Police N/E area Substation, 3705 Oakdale Rd. Modesto. Net 1.2+4 Tues. 7:30 p.m. 145.390(-)PL136.5 2/02

Tehachapi-Southern Sierra ARS. Meets 2nd Thurs./monthly, 7 p.m., except July, 125 East F St., Tehachapi, CA (Veteran's Hall). Info: KD6KMN, (661) 822-5995. www.ssars. net, 147.06(+), 224.42(-) PL 156.7. Pkt 145. 090(S) connect to W6PVG-7. ARES nets 7 p.m. 147.51(S) Mon. 1/02

Tri-County Amateur Radio Assoc. P.O. Box 75, Claremont, CA 91711-0075. Meets: 2nd Mon./monthly, 7:30 p.m., Brackett Airport, Pilot's Lounge in Adm. Bldg., La Verne, CA. Info: Alvin, W6EKZ at w6ekz@arrl.net or (909) 622-9930. 2/02

Trinity County ARC. P.O. Box 2283, Weaverville, CA 96093. Meets 2nd Wed./monthly, County School. Adm. Buillding, Weaverville, 7:30 p.m. Rptrs: WA6BXN 146.73(-) PL 85.4, W6HOR 146.925(-) PL 85.4. http:// www. tcoe.trinity.k12.ca.us/~tcarc 2/02

West Coast Amateur Radio Club, (WCARC). P.O. Box 2617, Costa Mesa, CA 92628. Meets 3rd Thurs./monthly, 7 p.m., Fountain Valley Sch. Dist. Office, 17210 Oak St., Fountain Valley, CA. Info: Jane, KD6ODV, (714) 531-6707 4/02

Westside Amateur Radio Club - Los Angeles. P.O. Box 11092, Marina del Rey, CA 90295. Meets 4th Tues./monthly, 7:30 p.m., ARC Bldg., 11355 Ohio Ave., W. L.A., CA (VA Cntr. grounds). Net Tues., 8 p.m. 147.195+, PL100, except mtg. night. Website: http://www.qsl.net/wa6rc Messages: (310) 848-1354 11/01

Willits Amateur Radio Society, (WARS). P.O. Box 73, Willits, CA 95490. Meets 4th Mon./monthly, 7 p.m., Brooktrails Fire Dept. 2 NW Willits. http://www.saber.net/wars. Talk-in: 145.13(-), PL 103.5. 12/02

FLORIDA

Gulf Coast ARC. P.O. Box 595, New Port Richey, FL 34656. Meets 4th Mon./monthly, 7:30 p.m., Marchman Tech. Ed. Cntr., 7825 Campus Dr., Bldg. C, Rm C122, New Port Richey. WA4GDN rptrs. 146.67 (-) & 145.33(-), serving all of Pasco County. 1/02

Highlands County ARC, Inc. Meets 3rd Mon./monthly 7 p.m., Agri Civic Cntr, (HWY 27 So.) Sebring, FL. Rptrs: KK4LI 147.045 & KE4WU 442.350. Club Net: every Wed. on 147.045, 8 p.m. ARES Net: every Wed., 147.27 at 7:30. Web page: www.strato.net/~hamradio 7/02

Okeechobee ARC. Meets 1st Mon./monthly (except holidays), 7 p.m., Village Square Restaurant, 301 W. South Park St., Okeechobee, FL. Talk-in: 147.195(+), PL100. 9/02

Port St. Lucie ARA. P.O. Box 7461, Port St. Lucie, FL 34985. Meets 2nd Fri./monthly, St. Andrews Lutheran Church, 295 Prima Vista Blvd. Contact: Roy Cox, (561) 340-4319. www.qsl.net/pslara or 146.955-. 2/02

GEORGIA

Cherokee Capital ARS. Meets 3rd Thurs./monthly, 7 p.m., Trinity Baptist Church, 1170 Rome Road, SW (GA Hwy 53) Calhoun, GA. 146.745(-). Info: Felton Floyd, AF4DN, (706) 629-0369. www.qsl.net/k4woc 1/02

HAWAII

Big Island Amateur Radio Club. P.O. Box 1938, Hilo, HI 96721. Meets 2nd Sat./monthly, 2 p.m., Keaau Community Ctr., behind Fire Station on Old Volcano Rd., Keaau. Talk-in on 146.88 (-). Lunch, 11 a.m. Fridays, Hilo Hawaiian Hotel - Queen's Court Rest. 11/01

Hawaii QRP Club. Meets daily at World Headquarters, 8-10 a.m., Jack In The Box Restaurant, mile 2, Volcano Highway, Hilo. Contact: via e-mail: kh6b@juno.com for info. 3/02

ILLINOIS

Dupage Amateur Radio Club. (DARC). P.O. Box 71, Clarendon Hills, IL 60514. Meets 4th Mon./monthly, 7:30 p.m., Fire Stn.#3, 6015 S. Cass Ave, Westmont, IL. Net Sun., 9 p.m. on 145.25. W9DUP rpts., 145.25(-) 107.2PL, 442.55(+), 114.8PL, 224.68 (-). www.w9dup.org 11/01

Hamfesters Radio Club, W9AA. P.O. Box 42792, Evergreen Park, IL 60805. Meets 1st Fri./monthly, 7:30 p.m., Crestwood Civ. Ctr., 139th & Kostner, Crestwood, IL. Nets: Sun. (local) 0100 UTC, 28.410 MHz; Mon. 9 p.m. 146.43 S., Packet Mailbox 145.65 MHz. Info: (708) 226-1570. 10/01

Schaumburg ARC. P.O. Box 68251, Schaumburg, IL. Meets 3rd Thurs./monthly, 7 p.m., Rec. Center, Bode and Springinsguth Roads. (847) 798-5248. http://members.aol.com/sarcradio 11/01

LOUISIANA

Baton Rouge ARC. Meets last Tue./monthly, 7 p.m., Catholic High School, 855 Hearthstone Dr., Baton Rouge, LA. Net: 146.79MHz, 8:30 p.m. Sun. www. brac.org. E-mail: W5GIX@aol.com. 2/02

W5GAD Jefferson ARC Inc. P.O. Box 73665, Metairie, LA 70033. Gen. mgt. 4th Thurs.; Board, 2nd Thurs.; Open House 1st, 3rd, 5th, (all) 7:30 p.m., Clubhouse, Metairie Playground, 1521 Palm St., Metairie. (504) 831-1613. Net Tue. 9 p.m. 145.37 (PL 114.8). 7/02

MARYLAND

Maryland Mobileers ARC (MMARC). P.O. Box 935, Severn, MD 21144. Meets 1st Fri./monthly, 7:30 p.m., Baldwin Hall, Generals HWY, Millersville. Info net ea. Mon. 8:30 p.m. on 146.805(-), tone 107.2 Hz. http:// www.qth.com/mobileers 8/02

MASSACHUSETTS

Quannapowitt Radio Assoc., (QRA) Meets 3rd Thur./monthly 7:00-9:00 p.m. at Wakefield MA Public Library, 345 Main St., Wakefield, MA, Sept. to June. Info: Jeffrey S. Hollis, W1CKH, (781) 944-6218. 3/02

MICHIGAN

Chelsea Amateur Radio Club, Inc., WD8IEL Meets 4th Tues./monthly, 7 p.m., Key Bank, 1478 Old Chelsea-Manchester Rd., Chelsea. Info: Bill Altenberndt, WB8HSN, (734) 475-7938 Rpt: 145.450(-). 5/02

Hiawatha Amateur Radio Assoc. of Marquette Co. P.O. Box 1183, Marquette, MI 49855. Meets 1st Thurs./monthly, 7:30 p.m., 108 Stratofort, K.I. Sawyer AFB, MI. For info contact: Richard Schwenke, N8GBA, (906) 249-3837. www.qsl.net/k8lod 11/01

MINNESOTA

St. Cloud Amateur Radio Club. Meets 3rd Thurs./monthly, 7 p.m., Radio Club Bldg , 401 4th St. N., Waite Park, MN 56387. Info: (320) 255-1410, 146.94 or 147.015 or www.wOsv.org/ 2/02

MISSOURI

Macon County ARC. P.O. Box 13, Macon, MO 63552. Meets last Thurs./monthly, 7 p.m., Macon R-I High Sch., rm.167. Net every Wed., 8:30 p.m. 146.805. E-mail: nøpr@arrl.net 3/02

NEVADA

Carson Valley Radio Club (CVRC). Meets: 3rd Sat./monthly, 10 a.m. (Feb., Apr., Jun., Aug., & Oct.), Hilltop Com. Church, 3616 No. Sunridge Drive, Carson City, NV. Rptr.: 147.270(+). http://www.cvrc.net. For information: Dick Flanagan, W6OLD, (775) 267-4900, or w6old@arrl.net 4/02

Sierra Intermountain Emergency Radio Assoc., (SIERA). Meets 2nd Thurs./monthly, 7:30 p.m., Minden Med. Cntr, Hwy 395 & Ironwood Dr., Minden, NV. Info: George Uebele, WW7E, (775) 265-4278, ww7e@arrl.net, Rpt. 147.330 MHz. 1/02

NEW HAMPSHIRE

Port City ARC (PCARC) W1WQM. P.O. Box 1587, Portsmouth, NH 03802. Meets 1st Wed./monthly (Sept.-June), The Edgewood Ctr., 928 So. St., Portsmouth. Rptr. 146.805(-) PL 127.3, 110.9, 88.5. 2/02

NEW JERSEY

Bergen Amateur Radio Association, (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., 146.79(-) 9 p.m. Wed. 8/02

Jersey Coast DX Assoc. (JCDXA). P.O. Box 357, Bradley Beach, NJ 07720. Meets 4th Wed./monthly, 7:30 p.m., MARS Station on Ft. Monmouth, Rt. 35 & Tinton Ave., Eatontown, NJ. Info: Mike, KC2Q (732) 774-1095 kc2q@arrl.net 3/02

The Garden State Amateur Radio Assoc., (GSARA). Meets 1st & 3rd Wed./monthly, 8 p.m., MARS Bldg., Fort Monmouth, NJ. Info: B. Buus, W2OD, (732) 946-8615. 2/02

NEW YORK

Amateur Radio Association 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. W2SEX. 2/02

Genesee Radio Amateurs, (GRAM). P.O. Box 572 Batavia, NY 14021-0572. Meets 3rd Thurs./monthly, 7:30 p.m. (except Jul Aug Dec), Salvation Army Com. Cntr, 529 East Main St., Batavia, NY. URL: http://hamgate.sunyerie.edu/~gram 9/02

Hall of Science ARC. P.O. Box 150131, Kew Gardens, NY 11415. Meets 2nd Tue./monthly, Hall of Science Bldg., 47-01 111 St., Flushing Meadow Park, 7:30 p.m. Info: Voice mail (718) 760-2022. 3/02

PROS, Pioneer Radio Operators Society. Meets 1st Wed./monthly, 7 p.m., Sardinia Town Hall, Savage Rd., Sardinia, NY. K. Moon, N2IFG, (716) 652-0923. 8/02

South Towns Amateur Radio Soc. (STARS). Meets 1st Thurs./monthly, 7 p.m., Hamburg Youth Cntr, Prospect Ave.Hamburg, NY (exc. Jul, Aug @ NIKE Base). Info: N2TEZ, 120 University Ave., Depew, NY 14043. Rpt: WB2ELW 147.090 (+) PL107.2 www.WB2ELW. com. 2/02

Suffolk County Radio Club. P.O. Box 283, Shirley, NY 11967. Meets 3rd Tues./monthly, 8 p.m., Bohemia Rec Ctr., Ruzicka Way, Bohemia, NY. Contact: Leskb2zhf@aol.com. Club info: (631) 399-4041 8/02

Westchester Emergency Comm. Assoc., (WECA). Meets 2nd Mon./monthly, 7:30 p.m., Westchester County Ctr., White Plains, NY. Contact WECA INFO LINE (914) 741-6606 for details. Talk-in WB2ZII/R 147.06(+) PL 114.8/2A. 11/01

Yonkers ARC, (YARC). Meets 2nd Sun./monthly, 10 a.m., 1st Pct., Yonkers Police Station, E. Grassy Sprain Rd., Yonkers, NY. Info: P.O. Box 378, Centuck Sta., Yonkers, NY 10710. (914) 963-1021. 146.865(-), 440.150(+). 2/02

NORTH CAROLINA

Randolph ARC. Meets 4th Tues./monthly, 7 p.m., Asheboro Pub. Lib, NC, Worth & Cox St.,downstairs mtg. rm. Talk-in KJ4AV Rpt., 147.255+. Info: Butch, WS4H, (butch@atomic.nit), or John, W4ZJN, (336) 498-1113. Net. Mon., 8 p.m. 147.255+ Rpt. 6/02

Stanly County Amateur Radio Club. Stanfield, NC. Meets 4th Thurs./monthly, 7 p.m. Talk-in 146.985(-) for location. Wed. net 9 p.m. 146.985(-). Fri. tech net 9 p.m. 147.390(+). Ph: (704) 888-4815. www.mdsmm.com/scarc/ 7/02

OHIO

Ashtabula County ARC. Ken Stenback, W8KS (964-7316). County Vo-Ed School, Jefferson, OH. Meets 3rd Tue./monthly, 7:30 p.m., County rptr., 146.715(-). 2/02

Clyde Amateur Radio Society (CARS). Meets 2nd Tue./monthly, 7:30 p.m., Municipal Bldg., Clyde, OH 43410. NF8E rptr. 145.35(-) and 442.625(+) MHz. Net Sun. 9 p.m. Info: E. Remaley, KA8CAS. 1/02

Van Wert ARC, Inc. Meets 1st & 3rd Sat./monthly, 8 p.m., Van Wert County EMA Office, 1220 Ridge Rd., Van Wert, OH 45891. Call-in: 146.25/.85. www.redrivial.com/w8fy 7/02

OREGON

Central Oregon Coast ARC. P.O. Box 254, Florence, OR 97439. Meets every Wed., Bliss' Route 101 Restaurant at Hwy 101 & 12th St. Net Wed. 7 p.m., 146.80(-) 100hz tone. Info: 997-2323 or 997-4074. 9/02

PENNSYLVANIA

Mercer County ARC, 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. 147.585. 8/02

TEXAS

Tri-County ARC for Parker, Tarrant & Wise Counties, (WC5C). Meets 1st Sat./monthly, 6:30 p.m., El Paseo Restaurant, Stewart St. at Main, Azle, TX. Info: kb5ylg@yahoo.com or (817) 291-5816 2/02

VIRGINIA

Mt. Vernon ARC (MVARC). Meets 2nd Thur./monthly (except Dec.), 7:30 p.m., INOVA Mount Vernon Hospital, 2nd floor, ENG Conference Cntr. Rm. Info: Bob, KT4KS, (703) 765-2313. E-mail: mvarc@juno.com. Web: www.mvarc. org/. Net: Tue., 8:30 p.m. 146.655-. 10/02

Ole Virginia Hams ARC, (OVH). Meets 3rd Mon./monthly, 8 p.m., Northern Virginia Electric Coop. Tech Cntr., 5399 Wellington Rd., Gainesville, VA. Info: Mary Lu, KB4EFP, (703) 369-2877. http://www.qsl.net/olevahams 3/02

Portsmouth ARC. Meets 4th Thur./monthly, 7:30 p.m., Am. Red Cross Chapter house, 700 London Blvd., Portsmouth, VA. Talk-in 146.850. Info: C.I Clements, Pres. (757) 484-0569. http://www.w4pox.tripod.com/PARC/ 9/02

Southern Peninsula Amateur Radio Klub, (SPARK). Meets 1st Tue./monthly, 8 p.m., Sal. Army Bldg., Big Bethel Rd, Hampton, VA. Info: Dave Jarrett, W9RCC, (757) 713-5212 or e-mail: w4qr@arrl.net. Talk-in on 444.55+ PL167.9 7/02

Virginia Beach ARC. Meets 1st Thurs./monthly, 7:30 p.m., Virginia Wesleyan College, Wesleyan Drive off North Hampton, Village 2 Commons, Graybeale Bldg., Virginia Beach, VA. 2/02

WEST VIRGINIA

Tri-State Amateur Radio Association. Meets 3rd Tues./monthly, 7p.m., Museum of Radio & Tech., 1640 Florence Ave., Huntington, WV 25701. (304) 525-8890. 8/02

WYOMING

University ARC. Meets 1st Tues./monthly, 7:30 p.m., Univ. of WY, Engineering Bldg., rm. 2100, Laramie, WY. 146.01/61. 12/01

Jim Wades, WB8SIW

Simulated Emergency Test traffic

October will bring with it the annual ARRL Simulated Emergency Test. The complaints often heard from traffic handlers during and after this event, involve the massive quantity of "rubber-stamp" messages occasionally originated by ARES organizations. These messages are often canned texts such as "this station participating in the 2001 SET."

The idea in some locales seems to involve generating as much meaningless traffic as possible in an attempt to overwhelm the system. Yet, this would not be the desired process in a true emergency. In time of emergency, competent management demands the prioritization of message traffic in an attempt to manage message flow and insure that a network continues to function in an efficient manner. A simulation of this later method should be the goal of SET.

In some areas, ARES/RACES organizations have little, if any, working relationship with NTS networks. Like the schoolgirl sitting next to the telephone wishing and hoping her "dream" date will call, far too many NTS officials wait for the call that never comes from ARES leadership. If this is the case in your section, net managers and STMs are quite capable of creating their own SET. This process typically involves contacting a number of agencies having statewide jurisdiction and requesting that they draft a variety of simulated messages. These messages can then be provided to experienced traffic-handlers and net managers throughout the section for subsequent origination during the exercise. If you are in doubt about what agency to contact, keep in mind that each State should have an American Red Cross Lead Chapter for Disaster Response and a State Emergency Management Division. A few inquiries or an Internet search should provide a point-of-contact at each. Likewise, NTS members should be encouraged to make contact with their local ARES Emergency Coordinator. A complete list should be available from the ARRL Section Manager or his/her appointed Section Emergency Coordinator. Tell your NTS members to take the initiative — ask him out on a date.

Future ARPSC members?

Many ARES and NTS officials have noted the difficulty associated with recruitment of new members for public service programs. Often, it seems as if the return on investment for the effort expended speaking to amateur groups and attending various meetings is close to zero.

With little awareness as to the target demographic most likely to have an interest in the hobby, Amateur Radio operators have, for years, haphazardly recruited new participants. Many of the individuals who do attend licensing classes do so because they are interested in technology or the fraternal aspects of the service. In response to this interest, most classes often fail to even discuss public service activities. Once active in the hobby, these individuals are quickly distracted by DXing, experimenting, or simply socializing via VHF radio.

Perhaps we should try targeting individuals with a pre-existing interest in public service activities for upcoming licensing classes? Volunteer firefighters, Red Cross and Salvation Army volunteers, Search and Rescue personnel, and others involved in community service would seem to be likely candidates for future participation in ARPSC. A creative ARES program could put together an effective outreach/advertising program targeting various public service organizations. Interested individuals would then attend a licensing class where the emphasis is on ARES, RACES, and NTS activities.

If Amateur Radio is to continue to defend its spectrum access, it will be necessary to provide meaningful public service. The number of operators present on the bands does not justify government and public support. If numbers alone were the sole determining factor in the value of a radio service, we would have all been saying "10-4 good buddy" after the big CB boom of the 1970s. Let us know if your ARES program has had success, recruiting people directly into the public service arena.

Cooperation

In a previous column, I cited a number of situations, which reflect poorly on

the Amateur Radio Service. One such example, that of two repeaters operating on the same frequency in Grand Rapids, Michigan resulted in a fair amount of e-mail. I have since had my agent increase the value of my fire insurance.

The Michigan Amateur Radio Association, the party that placed the second repeater on the frequency, felt my portrayal of their organization was "one sided." In the interest of fairness, I wish to offer a summary of their members comments received via e-mail.

• The dispute arose when a rift developed between the club and some former members. These former members maintained control of the repeater against the wishes of the club and its officers.

• MARA claims (and the repeater coordinating body has so far upheld) they were the rightfully coordinated body.

• Over a year was spent attempting to resolve the dispute. Members took the drastic action of placing a new repeater on the same frequency pair only after attempts to resolve the dispute proved fruitless

Overall, members of MARA expressed great frustration with the ongoing dispute and felt the action of placing a new repeater on the frequency was the only way to resolve the dispute. Several members went on to indicate that the Repeater Council and Commission were notified before the action was taken.

This case and others like it, raise an important issue. Where do Amateur Radio clubs or individuals go to resolve such disputes? Court cases are expensive and time consuming. The Commission does not wish to get involved in such cases. Local radio amateurs often keep the same distance from such situations as they would from a case of sweating dynamite.

When such disputes spill onto the amateur frequencies, they reflect very poorly on the Amateur Service. Perhaps each ARRL section should have an "ombudsman" who serves as chair of a "dispute resolution committee." Parties involved in such a dispute could request a hearing to resolve such issues. Of course, to be effective, both parties would have to agree in advance to abide by the decision of an impartial panel. Such a process might go a long way toward keeping the peace and limiting any tarnish to the reputation of the Amateur Radio Service. Have any Sections attempted such a practice? If so, please let us know if it has been successful.

Upper echelon net liaison

Recently, I have had the opportunity to monitor a number of evening phone nets throughout the Midwest. Most of these nets meet during the standard 7 p.m. time slot, yet they do not maintain liaison with a Cycle 4 Region Net at 7:45 p.m. Therefore, traffic destined for out-of-state (section) is often delayed until the following day at which time it can be taken to the Cycle 2 "Daytime" Region Net. These nets should make an erstwhile attempt to recruit some operators willing to check-in to Cycle 4 Region Nets. In my opinion, it sure seems like poor customer service to leave traffic on the hook for nearly a day before it even gets started.

— Jim Wades, WB8SIW, our traffic handlin' guru can be reached by sending snail mail to: 945 Freeman Ave. SW, Grand Rapids, MI 49503, or by sending e-mail to: wb8siw@aol.com.

Bob Heil, K9EID

The dB, Hz and other curiosities

Probably the most used (and misused) term in today's electronic society is the decibel, which is abbreviated to dB, The term deci-Bel is 1/10th of a Bel. The Bel is named for Alexander Graham Bell and is *why* the B in Bel is always capitalized as it shows respect for Mr. Bell. Yes, you see it written db, but actually it should be dB. No matter how you spell it, the decibel is the logarithm of a ratio of two power-like quantities. The term decibel always expresses a power ratio. Power is practically never measured as just 'power'. Power is measured as a voltage and then calculated into an average power by using ohms law.

dB as a ratio of power

When you double your power you increase it by 3 dB. To make a 3 dB increase you must have doubled your power. As you increase your power by 10 dB you multiply by 10. For any increase between 0 dB and 10 dB, here is a handy little chart you can refer to:

DB INCREASE	MULTIPLY BY
1 dB	1.26
2 dB	1.58
3 dB	2.00
4 dB	2.51
5 dB	3.16
6 dB	3.98
7 dB	5.01
8 dB	6.31
9 dB	7.94
10dB	10.00

Using this table, if you are running a transmitter with an output power of 100 watts and an antenna with 4 dB of gain, the effective radiated power will be 100 (watts) X 2.51 or 251 watts.

Reference

We have learned that the decibel is strictly a ratio....a part of an equation and to make it useful, there must be some type of *reference* to make the term dB useful. If you had an unknown amount of money and increased it by 3 dB you have doubled it, but you have no idea what that's worth — a few bucks or a couple of million! There has to be a reference point when discussing the decibel.

There are many standards to reference the dB. The standard for RF work is 0 dBm which is equal to 1 milliwatt measured into a 50-ohm load. From this you can calculate:

Watt	dBM
.001	0
.01	+ - 10
.1	+ - 20
1.0	+ - 30
10.0	+ - 40
100.0	+ - 50
1000.0	+ - 60
10000.0	+ - 70

In audio work, the 0 dBM is 1.14 volt measured across a 600-ohm load. This was originally set up by Ma Bell and is still used as THE reference for all audio measurements.

The dB is not a linear measurement term. Our hearing in no way is linear.

When you listen to a speaker system, if the power is doubled by raising the power 3 dB, very, very few humans can detect that any increase has been made. Most humans can not detect 3 dB. In order for one sound to seem twice as loud as another, you would have to multiply the actual power by a factor of 10! And such a tenfold increase in power works out to a 10 dB change on the decibel scale. The loudest sound our ears can listen to before pain sets in is around 10,000,000,000,000 times as powerful as the quietest sound most humans can detect.

Cycles per second

Another term in wide use is CPS cycles per second. Back in the 70s that was changed to Hertz as a tribute to Mr. Hertz and that's why the H is always capitalized. This term is quite easy to understand. It is the number of times per second which something vibrates or oscillates. If you have a speaker that moves in and out once each second, that is one cycle per second (1 Hz). Ten times in and out per second would be 10 Hz. And so on. The human ear can usually begin hearing frequencies around 15 Hz, and extend up through 16,000 Hz. Radio frequencies oscillate in the millions of 'cycles per second'.

We hope this helps you to better understand some of the 'mysteries' that we hear and use each day in this beloved hobby we call Amateur Radio. Next time we will examine how low-pass and high-pass filters work.

— Bob Heil, K9EID, our frequency response lovin' columnist can be reached by sending snail mail to: 5800 N. Illinois, Fairview Heights, IL., 62208-3505, or by e-mail to: bob@heilsound.com.

Nancy Kott, WZ8C

Being on time

You may not think that Morse code and telling time have much in common, but they do. Ham radio is a global hobby that crosses through language barriers and time zones. Morse code and Universal time are two tools we use to communicate around the world in an efficient, universal and easily understood manner. Being proficient in both code and time conversion will increase your enjoyment of our hobby.

Many Amateur Radio activities have a specific start and finish time. Special event stations, nets and contests are listed in publications by using Universal Time, which each Ham must convert to their own local time. There are few things more embarrassing than calling "CQ contest" the day before the contest starts because of a time conversion error. Something similar happened to my mother, Irene Kott, WO8E, when she was first licensed about 10 years ago. She called CQ an hour early for a contest and was very embarrassed when someone answered her CQ and informed her of the error. To this day, she won't call "CQ CONTEST" until she hears a lot of contest activity, just to be sure. I know other Hams who feel the same way. When you understand how time conversion works, I hope you will be more confident on the air.

Even if you aren't a contester and just like to chat, or "rag chew," on the air you cannot avoid the issue of time conversion. Sending a QSL card is the final courtesy of a contact, and in order to make the QSL card valid, a date and time are required. If you are in the habit of using Universal Time in your log book, it will save time, and errors, in the long run. Foreign stations and DXpeditions keep their logs in Universal Time. If you send them a QSL card with your local time of the contact, they will not be happy about taking the time to figure out where you are in their log. You could miss a rare QSL card confirmation because they can't find you at the time you indicate.

Universal Time goes by many different names. You may hear it referred to as UTC (Universal Time Coordinated), GMT (Greenwich Mean Time), WET (Western European Time), or Z, which is the phonetic alphabet abbreviation for Zulu. Realizing that these abbreviations all mean the same thing makes it less confusing already! Removing the mystery regarding how these names came about and why they use the letter Z will help you even more.

Why universal time began

In the early 1800s there were over 300 time zones in the United States. The different time zones were not that much of a problem because information moved slowly by stagecoach and ocean liners but you can imagine what confusion there must have been when the major cities became connected with telegraph lines and railroads. As information exchanges and travel became faster, it began to be more important to know the time in other parts of the country, not to mention the world. Something had to be done.

In October of 1894, an International Conference was held by the President of the United States, along with representatives from 25 countries from around the globe. They voted to adopt a single reference time line for all nations; it was decided that this meridian would pass through the center of the Observatory at Greenwich, England. This line is known as the Prime Meridian of the World, or International Date Line.

They divided the world into 25 longitude line segments, or time zones, spreading both East and West from this Prime Meridian line. These time zones were designated in two different ways: One way is with a three-letter abbreviation, like EST for example; another way was to assign a different letter of the alphabet to each time zone. These letters are known by their phonetic equivalent. Every letter of the alphabet was used, except the letter "J."

The first time zone going east from Greenwich, England, which includes France, was assigned the letter "A" and is also know as Central European Time (CET). The next zone, where you will find Finland, was called "B" or Eastern European Time (EET), and so on, moving across the globe. Eastern Standard Time (EST) falls into the "R" zone. Greenwich, England is "Z" or Zulu, which is why UTC is often called Zulu: two different ways of saying the same thing. If you have a time-wheel style time-zone converter, its letters of the alphabet stand for the different time zones of the world. The letter of the alphabet is just another way to refer to a time zone.

Converting local to Zulu

To figure out what time it is in YOUR part of the world, you have to subtract hours from the time in Greenwich, England. To make it easier to do this, it is generally accepted to speak of time in military time, which

is a 24-hour clock. Morning times are easy to figure out, 0100 is 1:00 a.m.; 0130 is 1:30 a.m., 0600 is 6:00 a.m., up to 1200 — noon! After noon, you just add the time of day to 1200 (noon) to find the military time. Can you guess what 1:45 p.m. would be? That is right, 1200 plus 145 = 1345! 11:00 p.m. would be 2300. It follows that midnight is 2400 or 0000. Both 2400 and 0000 are generally acceptable for midnight. Some military branches say there is no 2400, but I am not going to quibble here, we just want to get the basic concept clear. The minute after midnight is 0001.

To convert your local time into Universal Time, use the following chart:

Eastern Standard Time = subtract five hours from UTC

Central Standard Time = subtract six hours from UTC

Mountain Standard Time = subtract seven hours from UTC

Pacific Standard Time = subtract eight hours from UTC.

If you are on Daylight Savings Time:

Eastern Daylight Time = subtract four hours from UTC

Central Daylight Time = subtract five hours from UTC

Mountain Daylight Time = subtract six hours from UTC

Pacific Daylight Time = subtract seven hours from UTC

To convert your Local Time TO Universal Time:

EST + 5 hours = UTC

CST + 6 hours = UTC

MST + 7 hours = UTC

PST + 8 hours = UTC

If you are on Daylight Savings Time-to go from Local Time to Universal Time:

EDT + 4 hours = UTC

CDT + 5 hours = UTC

MDT + 6 hours = UTC

PDT + 7 hours = UTC

This is pretty straightforward, but can get confusing when subtractions and additions move you into the day before or the day after. For example, let's say a contest starts at 0300Z 12 June. To find out what time that is in Eastern Daylight Time we see on the chart that we have to subtract four hours. If you look at a clock and move the hands back four hours from 3 a.m. you will see that it takes you back to 11 p.m. or 2300. But, that makes it the night before 12 June. So, the contest would start at 11 p.m. 11 June, EDT. It's not difficult — you just have to think it through.

I hope this helps take the mystery out of UTC and its variations. Take some time and get familiar with it. It makes the hobby more fun when we have our clocks set on the same timeline, and you will not be late for contests and "Special Events." You may even be brave enough to be the first to call "CQ."

FISTS contest

Have you ever wanted to get your feet wet in contesting? Dreamed of a contest where the folks are friendly and patient, out to have a good time, as well as achieve a good score? FISTS has the contest for you! Our Fall Sprint is the second Saturday of October, from 1700-2100Z. No excuses for not knowing what time that is! Everyone is welcome to participate, whether or not you belong to FISTS.

There are three entry classes — QRP, which is limited to 5 watts output power or less; QRO, which is over 5 watts output power, and Club entries (regardless of power). Entry class must be shown on logs to be considered for entry in a particular class, or it will assumed to be QRO.

The Sprint exchange goes like this: For FISTS members, give your RST, U.S. state/Canadian province/DXCC country, first name and FISTS number. For non-FISTS members, use RST, U.S. state/Canadian province/DXCC country, first name and power output.

To total your QSO points, count each QSO with a FISTS member as 5 points. Each QSO with a non-FISTS member counts as two points. To figure your multiplier, add the number of states and Canadian provinces you worked. Count each state or province only once, no matter how many times you worked it. Total up the DX countries you worked and add that to the number of states/provinces. You may count a DX country each time you worked it. If a DX country is worked several times on different bands, each QSO counts as a multiplier. Multiply the total number of state/province/countries and multiply it times your QSO points. That gives you your total score. Mail your log and totals to Dan Shepherd, N8IE, 1900 Pittsfield St, Kettering, OH 45420. Mark your calendar, I hope to see you there! 73 Nancy Kott, WZ8C.

— Nancy Kott, WZ8C, our dittin' and dahin' columnist can be reached by sending snail mail to: P.O. Box 47, Hadley, MI, 48440, or by sending e-mail to: nancy@tir.com.

Richard Fisher, KI6SN

The amazing 'Stinger Singer' frequency counter kit

Several months ago we'd just put the finishing touches on a small scratch-built local oscillator circuit destined to liberate the crystal-controlled W7ZOI Micromountaineer transceiver from its rock-bound immobility.

Applying power to the LO circuit and connecting a milliwatt-sensitive QRP power meter showed unmistakably that we were getting output. But the $64,000 question was: Output where?

We were shooting for a variable oscillation somewhere close to 7.000 MHz. But past experience taught us that the inductor/capacitor combination in circuits such as this can put your beat frequency easily 500 kHz to either side of what you're aiming for. Sometimes even more.

And sure enough, after spending about an hour scanning the RF neighborhood for the LO's CW carrier using the receiver side of a TS-140 transceiver, we finally found the oscillator's signal at about 6.75 MHz. It was great to find it, but there had to be a better way.

At the time, a fancy frequency counter would have been about the only answer. Most bench-quality units have price tags in the hundreds, or even thousands of dollars. That's much too rich for this homebrewer's blood.

So when Bob Hightower, NK7M, announced on the Internet mail group QRP-L in July that the Arizona ScQRPion QRP Club was offering a $20 frequency counter kit, it seemed almost too good to be true. I raced to the post office to mail in an order.

Designed by veteran designer Dan Tayloe, N7VE, the tiny unit is being sold in kit form as the AZ ScQRPion Stinger Singer. Having had the pleasure to build, test and play with the SSS, I'm happy to tell you it's a truly remarkable and accurate piece of test gear — and yours for about the price of taking the family to McDonald's.

Once you dive into the documentation that comes with the kit, it's easy to see how "Singer" became part of the name. Unlike the high-priced, digital read-out frequency counters so commonly found in the hobbyist and technician's lab, the ScQRPion kit "sings" out the frequency in Morse code via a paper-thin transducer. No digital display needed. And quite a singer the Stinger is.

"I might mention a couple of points about the kit," NK7M wrote to the QRP-L mail group. "(The kit) features a quality silk-screened, solder masked board with plated through holes, and the IC sockets are machined, not stamped. All components are of the best quality we could get without going overboard. Reports we have gotten have been very favorable thus far." The PC board was designed by Dave Fifield, AD6A, who is also a veteran of QRP research and development.

Indeed, this is a first-rate project. Opening the small plastic bag containing the parts for the kit might lead the builder to wonder: Are they leaving anything out? For the tiny handful of parts involved, it's truly amazing what the SSS can do.

The Singer Stinger can measure frequency in five different modes, and at two CW speeds. Toggling the counter to the preferred mode is done via a panel-mounted, push-button switch.

When powered up, the SSS automatically goes to "E" mode. That sets the unit to take a one-second measurement and then announce the frequency of the sampled signal in 10s and 1s of kilohertz and 100s of hertz. For example, in "E" mode, if you know you're close to the 40-meter CW QRP calling frequency and the SSS sends "39R3" in CW, you're at 7.039.3 kHz. The "R" signifies a decimal point.

Press the panel mounted push-button again and you toggle to "L" mode. This sets the unit to take a one second measurement and then announce the complete frequency down to 1 hertz. So, if we were on the same frequency as the "E" mode sample, the SSS would send "7R039R319" — translating to 7.039.319 MHz. So in "L" mode, the SSS not only adds the megahertz element, but also factors down the frequency to three digits to the right of the second decimal point.

Wow!

There's also the "F" mode which takes a one second sample and reports the frequency in 1s kHz, R, 100s Hz, 10s Hz and 1s Hz. "ER" and "LR" are the same as the "E" and "L" modes respectively, but "sing" the frequency in CW over and over and over.

There are two complete menus of "E," "L," "F," "ER" and "LR" modes: one that reports frequency in higher-speed CW, and another that reports in much slower-speed CW.

The Stinger Singer was designed to work optimally in an Altoids-style

The AZ ScQRPion Stinger Singer frequency counter kit is was designed for use in a classic Altoids-style light metal chassis.

enclosure. The transducer needs a good "speaker cabinet" to allow the Morse frequency readout to be comfortably heard. The resonant frequency of the mint-tin is just perfect for amplifying the 800-Hz CW tone during frequency "readout."

It took about 10 minutes to mount all of the parts on the SSS's small PC board. That's five fixed capacitors, a diode, a resistor, trimmer capacitor, voltage regulator, a 4 MHz crystal and two chip sockets — one 8-pin and one 14-pin.

Off-board parts with the kit include the transducer, a momentary push button, and an RCA-style jack. It's up to the builder to provide a 9-volt battery and some means to affix it to the Altoids chassis. It's also suggested that an ON/OFF power switch be added to conserve your battery when the counter is not in use.

An 8-pin pre-programmed PIC 12C508A chip is the heart of the Stinger Singer. A 14-pin 74HC00 and a 78M05 voltage regulator round out the substrate side of the kit.

The SSS comes with six pages of assembly instructions, complete with detailed photographs. It's a perfect project for first-time builders. The PC board fits comfortably inside an Altoids box alongside a standard 9-volt battery and the transducer is Super Glued to the tin's lid.

The push-button is accessible on the front panel, and that's where I chose to put the ON/OFF switch, too. The RCA plug goes on the back panel. That's where a piece of hookup wire, used as a sensing "antenna" for the counter, is fed into the unit.

After securing the parts onto the PC board, it was time to put the unit into the Altoids tin. Double-sided foam adhesive tape was used to secure the board in the tin box, as well as the 9-volt battery. I'd already drilled holes and mounted the push button, ON/OFF switch and sensing antenna jack. So all that was left to do was the off-board wiring.

How useful is the SSS? Well, for years I've wondered just what frequency range is covered by my classic NorCal-40 transceiver. I'd always had a ballpark notion, but never knew the precise range. With the Stinger Singer toggled to "L" mode it took me about 30 seconds to find out. After laying the SSS's sensing antenna beside the coaxial output from the NC-40, I tuned the rig to the bottom of its range. Keying down, I then pressed the push button of the SSS. Within a second the Singer sent back: "7R017R952." That translates to 7.017.952 MHz. Turning the NC-40's VFO to its highest setting, I repeated the frequency sampling exercise. This time the SSS sent: "7R052R814," which is 7.052.814 MHz — amazing! And from now on, if anyone asks how much of 40 Meters the KI6SN NC-40 covers, I'll gladly tell them: 34.862 kHz — with confidence.

From start to finish, the Stinger Singer kit took a little less than an hour to build. Rubber feet were added to the bottom of the Altoids box. I knew from the first time the SSS was put into action at KI6SN that this piece of test equipment was going to get a lot of use.

To order the AZ ScQRPion Stinger Singer, send a check for $20 made out to Bob Hightower and mail it to: Bob Hightower, NK7M, 1905 N. Pennington Dr., Chandler, AZ 85224-2632. Please include a return mailing label with your order.

If you're willing to trade a trip to McDonald's for a remarkable and useful workbench and QRP station accessory, I highly recommend the Arizona ScQRPion Stinger Singer as a great way to go.

Carl Luetzelschwab, K9LA

Forced short path and long path in VOACAP and ICEPAC

In the January 2001 column I discussed downloading and using the free VOACAP and ICEPAC propagation prediction software. Bill Alsup, N6XMW, sent an e-mail suggesting that I explain one of the potentially confusing options in the data entry process when using VOACAP or ICEPAC. For the record, this issue originated in IONCAP (the parent software) and VOACAP and ICEPAC picked it up automatically as they are derived from IONCAP.

This specific issue is explained in the two manuals that can be downloaded with VOACAP and ICEPAC (the technical manual and the user's manual), but the total explanation isn't all in one place. So let's put it all together here. Hopefully it'll allow you to use VOACAP and ICEPAC with a little more knowledge.

When you're at the main screen in either VOACAP or ICEPAC (the point-to-point data input screen), one of the data entry boxes is Method. Clicking on this opens a "Change propagation METHOD" window giving you 30 choices. Figure 1 shows this window. In the January 2001 column I used Method 20, which is called Complete System Performance (C.S.P). My guess is that most of the time you'll either be using this method (it lists 22 parameters) or the shorter version, Method 16 (with only 13 parameters). Both of these methods give the median MUF and the median signal level, along with other parameters as explained in the January 2001 column.

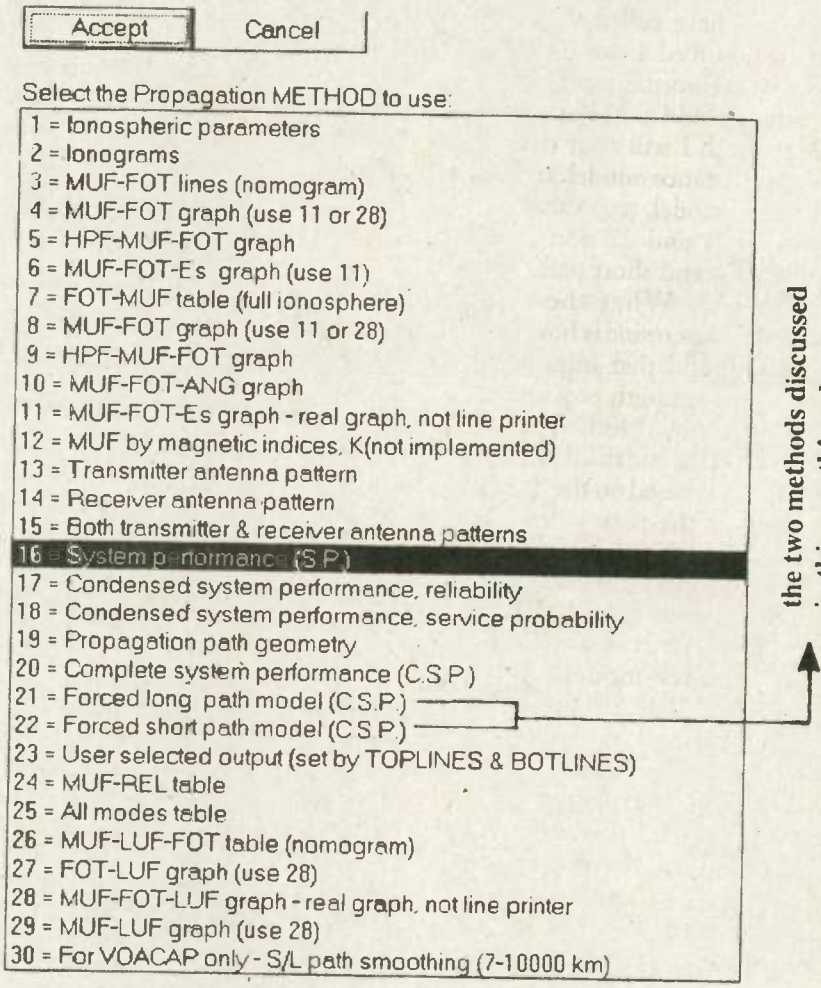


Figure 1. "Change propagation METHOD" window

Looking over the list of Methods shows two other methods that are designated as Complete System Performance (C.S.P.): the Forced Long Path Model (Method 21) and the Forced Short Path Model (Method 22). Here's where confusion can set in. These two methods have nothing

to do with what we commonly call short path (the shortest distance between two points on the Earth) and the long path (the other way around – 180° different). It is unfortunate that the developers of IONCAP called these two methods what they did. If they would have called these two methods the Forced Long Distance Model and the Forced Short Distance Model, things would not be so confusing. Henceforth I will refer to them as the long distance model and the short distance model, respectively.

If Method 21 and 22 don't really mean long path and short path, what do they mean? What these two methods really determine is how losses are calculated, and that impacts the resulting signal strength prediction.

When you run Method 16 or Method 20, the method used to calculate losses is based on the distance of the path. If the path is less than 10,000km, losses *by default* are calculated using the short distance model. If the path is greater than 10,000km, losses *by default* are calculated using the long distance model. Here's where the word "Forced" comes into play. Even though by default the distance determines which method is used, you can override the default so that the shorter distances (less than 10,000km) use the long distance model, or you can over-ride the default so that the longer distances (greater than 10,000km) use the short distance model.

Still confused? Let's go through an example. If you set the Transmitter to 41N/85W (K9LA) and the Receiver to 33N/37E (YK) and toggle PATH so that it reads "short", the distance shown will be 9,866km. If you run either Method 16 or 20, by default you'll get signal strengths that are calculated using the short distance model (since the path length is less than 10,000km). If so desired, you can force the signal strengths to be calculated using the long distance model by running Method 21.

If you now toggle PATH so that it reads "long", the distance shown will be 30,157km. If you run either Method 16 or 20, by default you'll get signal strengths that are calculated using the long distance model. If so desired, you can force the signal strengths to be calculated using the short distance model by running Method 22.

The question now is "what's the difference between the short distance model and the long distance model, and why is it an option?"

The short distance model calculates signal strength very rigorously. First it evaluates all possible ray paths for the circuit: E modes, Es modes, F1 modes, F2 modes, and above-the-MUF modes. Then losses are calculated, including D region and E region absorption, absorption in the F region as the ray is being refracted, and Es losses.

If the short distance model was used on long distance paths, we'd find that many paths wouldn't be predicted to have acceptable signal strength as the losses would be prohibitive. But these paths happen, so the long distance model was created to try to account for real-world propagation at these long distances. The long distance model only evaluates the sky-wave launch capability at both ends of the path, and then a dB-per-km function is used to fill in the rest of the path. Invariably the long distance model gives stronger signal strengths than the short distance model. Thus the long distance model is more optimistic than the short distance model with respect to signal strength.

How all this impacts your propagation prediction using VOACAP and ICEPAC is rather simple. You don't have to worry about it if the path is longer than 10,000km, as the long distance model is used by default, and the most optimistic signal strength predictions are the result. For paths in the 6,000 to 10,000km range, you may want to force the long distance model (Method 21) to make sure you catch any possible openings.

Kurt N. Sterba

Clarification

A reader took Olde Kurt to task for saying that a half-wave vertical has maximum current 1/3 wavelength out from the base. He says it is 1/4 wavelength from the base and in the center of the antenna.

Of course the maximum current in a halfwave antenna is in the center of the antenna and that is 1/4 wavelength from the ends. But Kurt was talking about the currents in the ground. These are maximum about 1/3 wavelength from the base of the antenna but at right angles to the antenna in the ground. This is an important point and Kurt wants to be sure it is clear in your mind.

That's the big difference between your ordinary quarter-wave vertical and the halfwave vertical. The quarter-wave vertical has maximum current flowing right at the base of the antenna. So that's where the maximum ground current is found. The RF current drops off as you go out from the base. That's why it is more important to have lots of short radials than a few long ones with a quarter-wave or shorter vertical. That keeps most of the heavy current flowing in the radials instead of the lossy ground.

A half-wave vertical, on the other hand, has no current at the base. As a matter of fact, it doesn't need to be grounded at all. The ground current comes through the antenna's capacitance to ground. And it turns out that the maximum is 1/3 wavelength from the base of the antenna. This means that you need longer radials with the half-wave antenna than with a quarter-wave vertical.

Kurt used the example of the Bureau of Standards WWVH giant half-wave vertical where the addition of ground radials greatly improved the radiated signal. Advertisements for "half-wave" verticals tell you that radials are not required. That's halfway right. They aren't required for the vertical to work but you'll sure get out a lot better with them.

The basic theory here is that if RF current flows in lossy ground its power gets turned into heat thus warming your earthworms. All the power lost here is lost to your radiated signal. If you reduce this loss you will have a bigger signal.

Roof mounting

Kurt's loyal reader goes on say that, yes, a ground mounted vertical will be helped by radials but what use are radials under a roof-mounted 16-foot vertical for 10 Meters?

Well, it is true that the higher the half-wave vertical is located the less the ground currents and the less you need radials. In this case you can probably get along without them just fine. But are you sure that that roof is low-loss to RF? Think about it!

The Hy-Gain Hy-Tower

It was over a third of a century ago that the Hy-Gain antenna company produced its "Hy-Tower." This was a 50-foot tall 80-10M no-tune vertical. Their advertising said it needed only four square feet of real estate for installation. How did they do that? By making it self-supporting (mounted on a steel pipe driven into the ground) and by using four ground rods instead of radials.

A reader of Kurt's Klassy Kolumn is still using one of these things. He wants to experiment with putting some radials on it and wants to know how to measure any change in performance they make. Have a distant station listen and compare? Use a field strength meter? And also, do the radials have to be a quarter-wave long? His primary interest is improved performance for 40-meter DXing.

Well, to start with, you don't need exact quarter-wave radials. Ground-plane antennas up in the air use quarter-wave radials. But when you lay those radials on the ground they aren't quarter-wave anymore. Their electrical length changes because of the capacitance to ground.

So, instead of trying to get resonant radials the idea is to put in enough of them and long enough to reduce your ground losses as much as possible. For good performance you should use at least 15 radials and, if possible, they should be 1/10 wave long minimum. More is better and if you have more they should be longer.

Will they work better than the four ground rods? You bet they will.

The easy way to tell if the radials help is to measure the base impedance. You can use an SWR meter, although an impedance bridge is better. Check the resistance at resonance before and after adding the radials. The ground resistance will drop and thus

the measured resistance will drop. For a quarter-wave vertical you can figure on 36 ohms radiation resistance. The rest is ground loss.

Books

A reader writes: "Recently you reference the book *Antennas* by John Kraus. Sometime could you review or recommend antenna-theory books? At $80-$120 each I can't afford to make a mistake.

With an internet store listing 350 antenna books, Krusty Old Kurt can't really cover the field. But here are some recommendations from his library.

First of all, all Amateur Radio operators should have a copy of ARRL's *Antenna Book*. It has a good deal of basic (and accurate) theory of antennas, transmission lines, and propagation along with many practical antenna designs and useful tips — a steal at $30.

Along the same lines, but better organized because it was all written by one author, is RSGB's *HF Antennas for All Locations* by G6XN. It has good readable theory sections and description of a wealth of different antenna types. Kurt enjoys the way he calls a spade a spade in debunking some widely believed principles. Highly recommended. About $20 at *www.rsgb.org*.

Antennas, by John Kraus, W8JK, goes much deeper into antenna theory and is a good reference for your bookshelf. But be warned that it is not an easy read. There is good material in the text but most explanations end up in mathematical equations. If you are not comfortable with calculus you will find it formidable. Get this later. $130.

Radio-Electronic Transmission Fundamentals by B. W. Griffith is a new reprint of a 1962 book. Exactly half of the book is about antennas, transmission lines, and electromagnetic fields. It is an easy read giving plenty of basic theory without complex mathematics. The math is explained to you in an early chapter in a readable manner.

Griffith was with Continental Electronics, the U.S. major manufacturer of very high power transmitters. This book is for theory only — there are no antenna designs for Amateur Radio. If you really want to understand how transmission lines work and how antennas radiate, this is for you. $60.

Contest Calendar

Dave Goodwin, VE2ZP

Contest	Date & Time	Bands	QSO points	Multipliers	Exchange	Entry Categories	Entries
RSGB 21/28MHz SSB (UK)	0700Z 7 Oct 1900Z 7 Oct	21.2-21.35 28.45-29.1	3pt/QSO Work UK stations only	UK Post Code areas UK stations will send the first two letters of their postcode.	RST Ser#	Single op, Single op QRP Multi-op single tx	14 Nov G3UFY
Oceania DX Contest SSB	1000Z 6 Oct 1000Z 7 Oct	80-10M SSB	3pt/10M 2pt/15M 1pt/20M 5pt/40M 10pt/80M Work Oceania only	Oceania prefixes on each band Score each band separately, then sum scores from all bands.	RST Ser#	Single op all bands Multi-op all bands SWL	27 Nov Box 6464 Wellington 6030 New Zealand or e-mail to octest@nzart.org.nz
Arkansas QSO Party	1400Z 6 Oct 0500Z 7 Oct	80-10M CW, SSB RTTY, PSK31	1pt/Phone QSO 2pt/CW QSO 10pt/AR Club Station 20pt/QSO with W5YM Wortk stations once per mode on each band	Multipliers for Arkansas stations: 50 states, Canadian provinces, and 1 DXCC multiplier. Multipliers for non-Arkansas stations: Arkansas counties (75)	RST State, Province or AR county	none Indicated Certificates to all entrants	1 Nov W5RL
European Autumn Sprint SSB	1500Z 6 Oct 1859Z 6 Oct	80-20M SSB	1pt/QSO	None	your call, other stn's call, Ser#, name	Single operator only	15 days I2UIY
California QSO Party	1600Z 6 Oct 2200Z 7 Oct	160-2M CW & SSB	2pt/SSB 3pt/CW Work California only	California Counties (58)	RST Ser# QTH	Single Op, All bands Multi-op, single tx	15 Nov Box 853 Pine Grove CA 95665
QCWA QSO Party	1800Z 6 Oct 1800Z 7 Oct	160M- UHF+	1pt/SSB QSO 2pt/CW QSO	QCWA Chapter, Canadian Provinces & Terrs, US States, DXCC countries count once on each "band". Rules allow for 15 "bands": 160M, 80cw, 80ssb, 40cw, 40ssb, 20cw, 20ssb, 15cw, 15ssb, 10cw, 10ssb, 6M, 2M, 135cm, 70cm and beyond. A QSO w/W2MM counts three multiplier points.	1. RST 2. Year first licensed 3. QCWA Chapter# or Prov/Terr. State or country	QCWA members, QCWA non-members Novices	30 days WØHXL
Ibero-America Contest (Spain)	2000Z 6 Oct 2000Z 7 Oct	160-10M SSB	3pt/Ibero-Am. 1pt/others	CE CO CP CR CT CX C3 C9 DU EA HC HI HK HP HR KP4 LU OA PY TG TI XE YN YS YV ZP 3C + their DXCC dependencies on each band	RS Ser#	Single op all bands, QRP Multi-op single tx SWL	30 Nov Conception Arenal 5 08027 Barcelona
YLRL Anniversary Party CW	1400Z 10 Oct 0200Z 12 Oct	80-10M CW	1pt/QSO on your section 2pt/QSO with others	ARRL Sections, Canadian Provinces and territories, DXCC countries	RST Section	Single Operator only	30 Days K0JFO
Oceania DX Contest CW	1000Z 13 Oct 1000Z 14 Oct	80-10M CW	3pt/10M 2pt/15M 1pt/20M 5pt/40M 10pt/80M work Oceania only	Oceania prefixes on each band Score each band separately, then sum scores from all bands.	RST Ser#	Single op all bands Multi-op all bands SWL	27 Nov Box 6464 Wellington 6030 New Zealand or e-mail to octest@nzart.org.nz
European Autumn SPrint CW	1500Z 13 Oct 1859Z 13 Oct	80-20M CW	1pt/QSO	None	your call, other stn's call, Ser#, name	Single operator only	15 days OK2FD
Pennsylvania QSO Party	1600Z 13 Oct 2200Z 14 Oct 05-13Z Off time	160-10M CW & SSB	1pt/SSB 1.5pt/CW 2pt/160, 80M CW 200pt/QSO with W3YA Work Penn. Only	Pennsylvania counties (67) Penn. stations will send a 3-letter county abbrev. x2 if you are QRP	RST QTH	Single op: High power, 100w, QRP Multi-op: Single tx, multi-tx	15 Nov Box 614 St. College PA 16804 USA
RSGB 21/28MHz CW (UK)	0700Z 21 Oct 1900Z 21 Oct	21-21.075 28-28.075	3pt/QSO Work UK stations only	UK Post Code areas UK stations will send the first two letters of their postcode.	RST Ser#	Single op, Single op QRP Multi-op single tx	14 Nov G3UFY
Illinois QSO Party	1800Z 21 Oct 1800Z 22 Oct	160-2M CW and SSB	1pt/Phone QSO 2pt/CW QSO	Illinois Counties Illinois stations count Illinois counties, US States, Canadian Provinces and maximum five DXCC entities	RST QTH (IL County, state, province or country)	Illinois fixed stations Illinois mobile stations Outside Illinois - no categories indicated Please see http://www.mgsinet.net/~jematz/rams.html	19 Nov KB9II
YLRL Anniversary Party SSB	1400Z 25 Oct 0200Z 27 Oct	80-10M SSB	1pt/QSO on your section 2pt/QSO with others	ARRL Sections, Canadian Provinces and territories, DXCC countries	RST Section	Single Operator only	30 Days K0JFO
CQ WW DX SSB	0000Z 28 Oct 2359Z 29 Oct	160-10M SSB	0pt/VE 2pt/NA 3pt/DX	DXCC + WAE countries + CQ Zones	RS CQ Zone	Single Op: All Bands, Assisted, Low power, QRP, Single band Multi-op: Single or multi-tx	1mo CQ mag.
ARRL Sweepstakes CW	2100Z 3 Nov 0300Z 5 Nov	160-10M CW	2pt/QSO Work stns once, regardless of band	ARRL Sections Count once, regardless of band	Ser#, Pwr class, ur call, Yr first licensed, Section	Single Op: Low power (A), High Power (B), QRP (Q) Multi-op single tx	1mo ARRL or e-mail to SSCW@arrl.org
Japan Int'l DX	2300Z 9 Nov 2300Z 11 Nov	80-10M SSB	1pt/QSO 2pt/80, 10M Work Japan only	Japanese Prefectures (50) on each band JAs will send a 2-figure prefecture number	RST Ser#	Single Op: All bands, Single band Multi-op, single tx	31 Dec Box 59 Kamata Tokyo 144
European DX RTTY (Germany)	0000Z 10 Nov 2359Z 11 Nov	80-10M RTTY	1pt/QSO 1pt/QTC In RTTY contest, work stations outside Europe	WAE Countries worked on each band x2 on 10/15/20 x3 on 40M x4 on 80M	RST Ser#	Single Op: All bands, Single band Multi-op: Single or multi-tx All entrants may use Packet Cluster	15 Dec Box 1126 D-74370 Sersheim Germany
OK/OM DX Contest (Czech Republic)	1200Z 10 Nov 1200Z 11 Nov	160-10M CW & SSB	3pt/QSO Work OK, OL and OM only	Czech and Slovak counties on each band. OKs, OLs and OMs send a 3-letter county abbreviation	RST Ser#	Single op all bands: Mixed mode, CW, SSB, QRP Multi-op SWL	15 Dec OK2FD
Ukrainian DX	1200Z 10 Nov 1200Z 11 Nov	80-10M CW & SSB	1pt/VE 2pt/NA 3pt/DX 10pt/Ukraine	DXCC + WAE Countries + Ukrainian Oblasts (27)	RST Ser# Ukr. send Oblast#	Single Op: All bands, Single band, All band QRP, Single band QRP Multi-op: Single or multi-tx SWL	1mo Box 4850 Zaparozhye 330118 Ukr.

Addresses: CQ - 25 Newbridge Rd., Hicksville NY, 11801 USA. ARRL - 225 Main St, Newington CT, 06111 USA. Callsign - Callbook Address

Bands: The 30, 17 and 12M bands are never used in any contest. Please confirm the dates of these events on the internet at or http://www.sk3bg.se/contest/

The TARA PSK31 Rumble (The Fall Classic). Sponsored by Troy ARA, 0000Z through 2400Z, October 6th, PSK only. 80,40,20,15,10,6 meters. Work stations once per band. Exchange name, state/province/DX send dxcc prefix. Operate 1 of 6 categories. **The Club Challenge**, whatever it takes to win!, **Normal,** 100w max. **Great,** 20w max. **Super,** 5w max. **Novice** or **SWL**. Final score is QSO's * (W + VE + JA + VK call areas + 1 point per DX incl. your own). Mults. count once per band. To be valid, scores must be received via our online score submission form found at *http://www.qsl.net/wm2u/score.html* or e-mail Logs to *wm2u@n2ty.org*, by the last entry date 3rd November 2001. Logs must be available for review if requested. Please read web rules for details on *http://www.qsl.net/wm2u/rumble.html* **or** *http://www.n2ty.org*. Info e-mail to Bill Eddy, *ny2u@n2ty.org* or Ernie Mills, *wm2u@n2ty.org*.

WORLDRADIO BOOKS

proudly presents the 2nd edition of the all-time classic

REFLECTIONS II

by Walt Maxwell, W2DU

- Greatly revised with additional chapters.
- This will be your most prized reference regarding SWR, tuners and antennas.
- Myth-busting and truth-telling!
- Belongs on the bookshelf of every serious amateur.
- Softcover, 8.5"x11", 416 pp., many charts, figures and photographs.

Only $19.95 + $4.00 s/h

(California residents please add $1.50 tax.)

Visa/MasterCard/American Express accepted. Please include your name (as it is on the credit card), address, card no. and expiration date. Send to

WORLDRADIO BOOKS

2120 28th St., Sacramento, CA 95818

(916)457-3655 • Fax (916)457-7339

n6wr@ns.net • http://www.wr6wr.com

Hamfests — October

CALIFORNIA

Amador County ARC Swap Meet & Flea Market, on 13 Oct. in Jackson, CA. Adm: FREE. Flea Market space: $10. Talk-in: 146.835 PL 100. Reservations: Gary 209/286-0931 or Van 209/295-8484.

•

The Mount Diablo ARC Pacificon 2001 Hamfest at the Sheraton Hotal (45 John Glenn Dr., Concord, CA). Held October 19-21. TI: 147.06+ (PL 100) VE testing forums, swapmeet, T-hunt, vendors. Speakers include Jim Haynie (Pres. of ARRL) & Riley Hollingsworth of the FCC. Adm: $10 advanced, $15 at door. Info: Email: *tickets@pacificon.org*. Website: *http://www.pacificon.org*.

COLORADO

The Rocky Mountain Radio League, Inc. 2001 Hamfest, 20 Oct., from 8 a.m. - 2 p.m., at the Jefferson County Fairgrounds (15200 W. 6th Ave., Golden, CO). Adm: $4. Table: $10. VE testing, ARRL forum, refreshments, door prizes. TI: 144.62/145.22. Contact: Ron Rose, N0MQJ. Phone: 303/985-8692. E-mail: *n0mqj@arrl.net*.

CONNECTICUT

Tri-City ARC Auction 27 Oct., at the Senior Citizens Center, Waterford Municipal Complex. Set-up: 9 a.m. Starts: 10 a.m. Bring items to be auctioned. Bid cards: $1 ea. Call-in: 146.97. PL 156.7. Info: Darryl DelGrosso 860/443-7799. E-mail: *DDelgrosso@aol.com*.

FLORIDA

Egypt Shrine Temple ARA Ham/ Computer Fest 2001 on 13 Oct., from 8 a.m. - 3 p.m. at 4050 Dana Shores Drive, Tampa, FL. Adm: $5. Tables: $10. Tailgate: $5. VE exams @ 1300 hrs. Forums every hour starting at 9 a.m. TI: 146.940. Contact: Keith W. Dean, 813/879-2449, *kwdean@gte.net*.

•

Greater Jacksonville Hamfest on 27 Oct., from 8 a.m. - 4 p.m., at the Morocca Shrine Auditorium (3800 South St. Johns Bluff Rd.) Adm: $6. Parking: FREE. Swap Tables: $20. Tailgating: $10. VE exams, vendors, and much more. TI: 146.76 or 146.88. Info: Greater Jacksonville Hamfest Association, P.O. Box 2123, Orange Park, FL 32067-2123. Website: *http://jacksonville.net/~Irish/JAXHAMFEST.html*. E-mail: *KE4HQG @AOL.COM*

GEORGIA

The AMSAT-NA Annual Symposium on 5-7 Oct. at the Holiday Inn Select in Decatur, Georgia. For more info: *http://www.amsat.org/amsat/symposium*. Steve Diggs, W4EPI, 4181 Wash Lee Court SW, Lilburn, GA 30047-7440. E-mail: *w4epi@amsat.org*.

ILLINOIS

The Illinois Valley ARC will hold a Swap Meet at Beardstown, IL on 7 Oct., from 8 a.m. - 5 p.m. at the UFDW Union Hall on Arenzville Rd. Adm: $3. TI: 146.715 PL 103.5. For info e-mail *bruce@jacil.org*.

•

Chicago ARC Hamfest on 14 Oct. at Oakbrook Terrace, South-West sub. of Chicago, from 8 a.m. - 1 p.m. Adm: $4 advance, $5 at door. Parking: FREE. Selling space, brings your own tables. Contact: Melissa, KB9QWZ; 773/384-7514. CARC, P.O. Box 410535, Chicago, IL 60641-0535.

MICHIGAN

LCDRA & CMARC Hamfair will be hled Sunday, 14 Oct., at The Summit from 8 a.m. - 2 p.m.. Vendor set-up: 6 a.m. Adm: $5 advance, $6 at the door. Tables: $10.50 advance, $12.50 at the door. VE testing, ARRL & DX Forums. TI: 145.390– & 146.520. Info: J. Ervin Bates, W8ERV, P.O. Box 27321, Lansing, MI 48909. Phone: 517/676-2710. E-mail: *w8erv@arrl.net*.

MISSOURI

The 10th Annual Halloween Hamfest on 27 Oct. at the Kirkwood Community Center (111 N. Geyer Rd.). TI: 146.31-.91. VE exams, forums, homemade food. Adm: $2 or 3 for $5. Tables: $10. Vendors: $15.

Info: Steve Welton, 314/638-4959. Website: *http://www.halloweenhamfest.com.*

NEW YORK

Radio Amateur of Greater Syracuse Hamfest on 6 Oct., from 8 a.m. - 2 p.m., at the Pompey Hill Fire Dept. Adm: $5. Tables: $11. VE exams @ noon. TI: 147.90/30. Contact. RAGS, Box 88, Liverpool, NY 13088; 315/698-4558; website: *www. pagesz.net/~rags*; e-mail: *ragsonline@hotmail.com*

NORTH CAROLINA

Maysville Hamfest 8 a.m. 14 Oct at Maysville Town Park. Free adm. Vendors welcome, but mostly tailgating. Catered food. For info: Carl Capps, N4TIE, 252/393-7934.

OHIO

Massillon ARC Hamfest and Auction, 28 Oct., from 8 a.m. - 3 p.m., at the Stark County Fair Grounds(305 Wertz Ave. NW Canton, OH) Set-up: 6 a.m. Adm: $5. Tables: $10. TI: 147.18+. For info visit *www.qsl.net/w8np.*

•

The 2001 Medina County Hamfest on 7 Oct., from 8 a.m. - 2 p.m., at the Medina County National Guard Aramory (920 W. Lafayette Rd.). Adm: $4. Table: $9. Set-up: 6:30 a.m. VE exams @ 9 a.m. TI: 147.030+. Contact: Mike, N8TZY 303/273-1519. Website *http://www.qsl.net/m2m.*

SOUTH CAROLINA

Rock Hill Hamfest 6 a.m. 6 Oct. at Knights Stadium (Exit 88 from I-77). Adm. $6. Indoor and outdoor spaces available. All paved area for flea market and parking. VE exams at 9 a.m. TI: 147.03(-). For info: Pete, 803/366-7318. E-mail: *krenn@cetlink.net.*

TENNESSEE

Chattanooga ARC Hamfest 2001 on 27 Oct, from 8 a.m. - 4 p.m., at Camp Jordon, East Ridge, TN. Adm: $5. Tables: $15. TI: 146/790- and 444.100. Website: *www.hamfestchattanooga.com.* E-mail *wa4rmc@aol.com.*

WASHINGTON

North Kitsap ARC Hamfest 13 Oct., from 9 a.m. - 2 p.m. at the Kitsap County Fairgrounds. TI: 146.620(-) offset 103.5, Simplex 146.520. Adm: $5, (under 12 free). Tables: $20. Vendors: $30. Contact: NKARC, P.O. Box 2268, Silverdale, WA 98383. E-mail: *nkarc@yahoo.com.* Website: *www.silverlink.net/nkarc.*

Please send the following friends a free sample copy of *Worldradio.*

Name _____
Address _____
City _____
State _____ Zip _____

Name _____
Address _____
City _____
State _____ Zip _____

Name _____
Address _____
City _____
State _____ Zip _____

Name _____
Address _____
City _____
State _____ Zip _____

Name _____
Address _____
City _____
State _____ Zip _____

Name _____
Address _____
City _____
State _____ Zip _____

Name _____
Address _____
City _____
State _____ Zip _____

Mail to:
***Worldradio* Send-a-Friend**
P.O. Box 189490
Sacramento, CA 95818

New Products

Alinco DJ-596 Dual Band HT

Alinco is introducing the DJ-596 VHF/UHF HT, a compact unit that can transmit up to 5 watts output on the 2-meter and 70cm bands in analog wide or narrow FM and with the optional EJ-43U digital board, digital voice communications are possible.

The DJ-596 has 100 memory channels, full coverage of the 2-meter and 70cm U.S. amateur bands, extended receive capabilities, CTCSS and DCS encode and decode, three scan modes, the ability to work and save in memory any number of "odd split" transmit/receive offsets and can transmit and receive in both the wide and narrow FM modes. A nickel metal hydride battery is standard and the unit will accept and operate on a wide range of input voltages, from 6-16 VDC. Illuminated keys and display add to operator convenience in low-light conditions. The large display can also show alphanumeric designations for each memory channel. A theft alarm and experimental "mosquito repelling sound" are among the unique features, along with more traditional items such as nine autodial memories. A new feature is External Terminal Control, which can output 5 VDC at 5 mA from the mic jack, which can be used by experimenters to control external devices.

Alinco is also introducing an optional Digital Voice Communication Board, EJ-43U that can be used in conjunction with a similarly equipped DJ-596 and existing DJ-196/496 units to achieve digital voice communications. Simultaneously, Alinco is also introducing the EJ-40U Digital Voice Communications Board for use in its new line of mobile radios, the DR-135/235/435 series.

The digital boards allow the operator to easily select between analog FM communications and digital voice operations. The Alinco digital boards use the open ITU-TV.32 protocol. This processed signal modulates the VCO in GMSK direct frequency modulation using a GMSK-Modem. It is then transmitted as a 20F3E conventional FM signal.

Alinco terms these boards as a "first step" in the use of digital communications by an Amateur Radio manufacturer. It acknowledges that the digital audio has a "processed" sound due to several limitations, specifically restrictions on bandwidth, the ability of the transceiver to switch between analog and digital operations and cost constraints that keep the unit affordable for the widest possible audience. Commercial digital radios have price tags in the thousands of dollars, while the DJ-596 is very competitively priced in the dual-band Amateur Radio marketplace, with an MSRP of $301.95.

Alinco emphasizes that the digital protocol used is an open format and is no different in principle from the use of other widely used digital protocols such as AX.25, Pactor, GTOR, PSK 31 and the like. Signals transmitted from the units are not encrypted and can be monitored by any similarly equipped unit or any station able to receive and decode the ITU-TV.32 protocol. Alinco has posted a detailed FAQ about its digital operations at its website, *www.alinco.com*.

The DJ-596 controls are kept to a minimum with an emphasis on easy operations. Frequency can be input directly from the keypad, then saved into memory. The volume and squelch levels are set by pressing the appropriate key then turning the dial to the desired level, which is preserved electronically. The 100 memory channels are easily programmed and can be allocated in any combination of VHF or UHF frequencies. The transceiver can also operate in a split-band mode. Additional user-activated options include time-out timer, busy channel transmit lockout, battery save, scan modes and more. The DJ-596 can also be used for 1200 bps packet operations with an external TNC.

For more information on the DJ-596, see the web page: *www.alinco.com*, or contact your nearest Alinco dealer.

VE Exams

As a service to our readers, ***Worldradio*** presents a feature listing of 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 December, please have the information to us by mid-September. ***Worldradio***, 2120 28th St., Sacramento, CA 95818. Please mark the envelope "VE Exams." List the location (City), any information examinees should have (advance registration, etc.) and the name and telephone number of a person to contact for further information. Examinees should bring their original license (along with a photo copy), two forms of identification (at least one should be a photo), and required fee.

p/r pref=pre-register preferred but w/i OK **w/i**=walk-in only
p/r=pre-register only—no w/i **w/i pref.**=w/i preferred to p/r

Date	City	Contact	Notes
Alabama			
10/16/01	Opelika	Mary, KL7P 334/741-9087	p/r
Arizona			
10/05/01	Tucson	David, K7IOU 520/749-2884	p/r pref
Arkansas			
10/13/01	Harrison	David, K5DEL 870/741-3604	p/r pref
California			
10/13/01	Carisbad	Rusty, AA6OM 760/747-5872	p/r pref.
Hotline	Carmichael	Info Hotline: 916/492-6115	w/i
10/27/01	Cathedral City	Doug, WY6I 760/322-1214	w/i only
10/25/01	Colton	Harold, AB6RN 909/825-7136	p/r pref.
10/27/01	Escondido	Harry, WA6YOO 760/743-4212	p/r only
10/08/01	Fremont	Dennis, K6DF 408/255-9000	w/i
10/27/01	LaVerne	909/923-1090 - w6ekz@arrl.net	p/r pref
10/01/01	Lancaster	Adrienne, WA6YEO 805/948-1855	p/r pref.
10/20/01	Long Beach	Don, NN6Q 562/420-9480	p/r pref.
Call!	Sacramento	Dick, N6DK 916/383-2113	p/r
10/13/01	San Pedro	Elvin, N6DYZ 310/325-2965	p/r pref.
Hotline	Santa Rosa	Hotline -Recording, 707/579-9608	w/i ok
Hotline	Sebastopol	Recording, 707/579-9608	
10/20/01	Stockton	Mark, W6DKI 209/465-7496	w/i
10/13/01	Sunnyvale	John, KG6XF 408/255-9000	w/i
10/13/01	Ventura	George, KN6LA 805/388-2488	p/r
Colorado			
	All Colorado	Exam recording 303/360-7293	
Connecticut			
10/16/01	Middletown	Paul, K1PL 860/635-1742	p/r pref.
10/24/01	Newington	Larry, AB7GY 280/983-2163	w/i pref
10/13/01	Newington	Dan, K3UFG 860/206-3379	w/i
Florida			
10/11/01	Ft. Myers	Leonard, KC4GOA 941/694-2505	w/i
10/08/01	Hollywood	Robert, WE4B 954/524-6051	w/i
Call	St. Pete	Mark, NP3R 727/528-0071	w/i pref.
Georgia			
10/06/01	Ellijay	Sam, K4SWU 706/276-4877	w/i pref
Idaho			
10/13/01	Boise	Rich Dees, W7BOI 208/888-1343	w/i pref.
11/24/01	Grangeville	Larry, AB7GY 208/983-2163	w/i pref.
10/02/01	Lewiston	KB7LTY 509/758-8374	
Illinois			
Anyday!	Burr Ridge	W9DS 630/986-0061	p/r
10/19/01	Elmhurst	Gerald, W9EG 630/628-1336	p/r
10/08/01	Libertyville	John, W9EM 847/223-5357	p/r pref
10/10/01	Morton	Bob, AA9MY 309/263-3620	w/i
10/13/01	Oak Forest	David, NF9N 708/226-1570	p/r pref
Maryland			
10/20/01	Laurel	John, WB3GXW 301/572-5124	p/r pref
Michigan			
10/05/01	Grands Rapids	Edward N8UXN 616/458-9029	w/i
Nevada			
10/06/01	Henderson	Tim, WA6TNW 702/872-5268	p/r pref.
New Jersey			
10/10/01	Ft. Monmouth	Mike, KC2Q 732/774-1095	w/i only
New York			
10/07/01	Yonkers	Emily, AC2V 914/237-5589	w/i
Ohio			
10/06/01	Cincinnati	Herb, WA8PBW 513/891-7556	w/i pref
10/27/01	Van Wert	Robert, KA8IAF 419/795-5763	p/r pref.
Oregon			
10/20/01	Albany	WB9HZT 541/967-4167	p/r pref
Call!!	Astoria	AA7OA, 503/338-3333	p/r
Tuesdays	Bend	Bill, K7ZM 541/389-6258	p/r only
10/21/01	College Place	WA5ZAY, 509/525-7003	p/r pref
10/13/01	Dallas	Robert, W7LOU, 503/623-1141	p/r
10/10/01	Eugene	Riley, W7EUD 541/345-2407	p/r pref
10/20/01	Gresham	Patsy, W7PAT 503/668-4305	w/i only
10/06/01	Lincoln City	Carl, K7EWG 541/994-3113	p/r pref.
TBA	Portland	Patsy, W7PAT 503/668-4305	w/i
10/10/01	Roseburg	Mel, AB7DC 541/672-5884	p/r pref.
Sundays	Sisters	Dave, N7TYO 541/549-7831	p/r
10/20/01	White City	Paul, K7VO 541/878-3433	p/r pref
Pennsylvania			
10/06/01	Charleroi	Bill, W3EMV 412/751-4373	p/r
10/06/01	Erie	Norma, W3CG 814/665-9124	w/i pref.
10/04/01	Philadelphia	Dusty, ND3Q 215/482-0386	p/r pref
10/15/01	Telford	Paul, N3YSI 215/536-4659	p/r pref
Rhode Island			
10/11/01	Providence	Judy, KC1RI 401/231-9156	w/i pref.
10/27/01	Slatersville	Bob, WB1P 401/333-4787	p/r pref
South Carolina			
10/17/01	Goose Creek	Robert, KU4OX 843/761-7637	p/r pref
South Dakota			
10/13/01	Hot Springs	Lon, WSØV, 605/745-5929	w/i ok
Texas			
10/20/01	Austin	Jim, AB5EK 512/327-6184	w/i
10/13/01	Webster	David Fanelli, kb5pgv@clarc.org	w/i pref.
Virginia			
10/13/01	Alexandria	John, WZ4A 703/971-3905	w/i
10/11/01	Chesapeake	Pat, AF4FR 421-9598	p/r
10/27/01	Gloucester	Bill, AE4RB 804/694-0690	p/r
10/02/01	Martinsville	David, AE4YK 540/638-1257	p/r pref
10/13/01	Stafford	Curt. N3GQ@arrl.net	p/r pref
10/06/01	Williamsburg	Mike, W4NYY 804/566-8015	w/i only
Washington			
Hotline	Vancouver	CCARC, 360/896-8909	
West Virginia			
10/13/01	Huntington	Garry Ritchie 304/733-1300	w/i

The Mart

Classified •Buy •Trade •Sell •Inform

MART deadline is the 15th of the month two months prior to issue date. Please include an address on all ads so prospective clients can contact you by mail, if they prefer. Commercial rate: 35¢/word, prepaid. Private rate: 20¢/word, prepaid. For credit card orders only: (VS, MC,AmEx) *http://www.wr6wr.com/martplacead.html* or Fax 916/457-7339 with card number, exp. date, name as it appears on card, and signature.

WORLDRADIO ON CASSETTES for the blind. For information, contact TOM CARTEN, K1PZU, 123-Y King's College, Wilkes-Barre, PA 18711-0801 or e-mail: *tfcarten@kings.edu.* F00

FREE HAM GOSPEL TRACTS. SASE, KW3A, 265 West Ave., Springfield, PA 19064. 301-302

CERTIFICATE FOR PROVEN TWO-WAY RADIO CONTACTS with amateurs in all 10 USA call areas. Award suitable to frame and proven achievements added on request. Send SASE to W6LS, 45527 3rd St. East, Lancaster, CA 93535-1802 to get data sheet. F00

WANTED FOR MUSEUM: Apple-1 and other pre-1980 micro-computers, also early-micro-computer journals, newsletters and advertising literature. KK4WW, P.O. Box 341, Floyd, VA 24091; 540/763-2321. 601-702

FOR SALE: *CQ/Ham Radio/QST/73* magazines and binders. SASE brings data sheet. W6DDB, 45527 Third Street East, Lancaster, CA 93535-1802. F00

PERSONALIZED HOURLY HF SKYWAVE PREDICTIONS from your precise location: $20.00 (including P/H) SKYCOM 2.0 runs on all Windows OS and is Y2K compatible. Calculates optimum frequencies, path loss, and beam headings to over 400 worldwide locations which you can easily add to if so desired. ATTN: W4HET c/o DX-ENGINEERING SYSTEMS INC., P.O. Box 1934, Middleburg, VA 20118; *w4het@aol.com* F00

BUSINESS FOR SALE— 2 way radio sales & service store, greater Las Vegas area. Perfect for radio amateur and retired E.E. engineer. STEPHEN LOCKS, 199 Regal Sunset Ave., Henderson, NV 89015; phone 702/856-0055, agent. 1001

WANTED: OLD HEWLETT PACKARD calculators and/or accessories, working or not. JOHN BLUE, KG8MM, 2436 Covert Rd., Burton, MI 48509; 810/744-4485; *jblue@tir.com* 801-102

QRP AMATEUR RADIO CLUB INTERNATIONAL. Awards, contests, outstanding quarterly magazine. $15 annually for US, $18 US for Canada, $20 US outside US/Canada. KQØI, 117 E. Phillip St., Des Moines, IA 50315-4114; *http://www.qrparci.org.* QRP — The thrill is back! 1200-102

AUTO-CALL MAGAZINE, official journal of the Foundation For Amateur Radio, a federation of over 80 clubs in the greater Baltimore/Washington DC area. Great coverage of FCC, ARRL, VEC, Public Service and club activities in the area. A must for those even passing through the area. For a sample copy write FOUNDATION FOR AMATEUR RADIO, P.O. Box 7612, Falls Church, VA 22046-7612. F00

QSL CARDS: Many styles, top quality. Order risk free. Plastic cardholders, T-shirts, personalized caps, mugs, shirts. Other Ham shack accessories. Free call, free samples. RUSPRINT, 12730 State Line Rd., Leawood, KS 66209; 800/962-5783 or 913/491-6689; fax 913/491-3732; *http://www.rusprint.com* 9-1201

BLISS Z MATCHMASTER BALANCED TUNERS 160-10M. High efficiency for balanced feed lines. Manual & new motorized remote. AIR & WATER KING, INC., 31345 Hwy 184, Dolores, CO 81323; 970/ 882-3922; *www.airwaterkinginc.purification.com; e-mail angelie@bliss.org* 9-1201

FOREIGN AIRMAIL POSTAGE for successful QSLing! Many countries, monthly bargains! Plus European nesting airmail envelopes, QSLs, eyeball cards, QSL albums and wall hangers! BILL PLUM, 12 Glenn Road, Flemington, NJ 08822-3322. (weekdays: 908/788-1020; fax: 908/782-2612.) 9-1201

ATLAS AND OTHER RADIO REPAIR 25+ years experience, certified test equipment. G.B. COMMUNICATIONS, INC., 963 Birch Bay Lynden Rd., Lynden, WA 98264; 360/354-5884; *gcf@telcomplus.net* 1001-302

HEADING MAPS AND LISTS. Free. WILLIAM MASSEY, W2HOJ, 1401 Deacon Rd., Mt. Holly, NJ 08060; *www.delphi.com/haminfo.* 901-902

WANTED: HAM EQUIPMENT AND RELATED ITEMS. Donate your excess gear or related items – new, old, in any condition – to the Radio Club of Junior High School 22, the Nation's only full time non-profit organization working since 1980 to get Ham Radio into schools around the country as a teaching tool using our EDUCOM – Education Thru Communication. Send your radio to school. Your donated material will be picked up anywhere or shipping arranged and this means a tax deduction to the full extent of the law for you as we are an IRS 501(c)(3) charity in our 21st year of service. It is always easier to donate and usually more financially rewarding, but most important your gift will mean a whole new world of educational opportunity for children nationwide. Radios you can write off, kids you can't. Make 2001 the year to help a child and yourself. Write, phone or fax the WB2JKJ "22 Crew" today: The RC of JHS 22, P.O. Box 1052, New York, NY 10002. 24 hours, call 516/674-4072; fax 516/674-9600; e-mail *crew@wb2jkj.org;* internet: *www.wb2jkj.org.* Join us on the WB2JKJ Classroom Net, 7.238 MHz 1100-1230 UTC daily and 21.395 MHz 1400-2000 UTC. 8-1101

ANTENNA SCIENCE. Why do radio signals leave an antenna? Learn this and more from an enlightening paper by Max Research. Clearly written and fully illustrated for amateurs and radio hobbyists. $4.95 postpaid. MAX RESEARCH, P.O. Box 1306, East Northport, NY 11731. 9-1201

FREE!!! Ham Radio and other CD-Roms & Software disk catalog. MOM 'N' POP'S SOFTWARE, P.O. Box 15003-HF, Springhill, FL 34604-0111; 352/688-9108; *momnpop@gate.net* 5-1201

EXOTIC 2002 CARIBBEAN HAMBOREE Join us in meeting with Caribbean Hams, visiting interesting Georgetown, Guyana, operating from great DX location. March 29-31, 2001 Information contact KK4WW, P.O. Box 341, Floyd, VA 24091 or *www.publicusit.net/dlarsen.* 701-202

RF TRANSISTORS & TUBES MRF455, SD1446, MRF454, 2SC2879, 2SC2290, SAV7, M57737, MRF247, MRF317, MRF151G, MRF448, SAV17, 4CX250B, 3-500ZG, 3CX3000A7, 4CX5000A, 572B, EL519. We stock all types of RF transistors & tubes. Same day service. See our catalogue for other products. WESTGATE, 478 Westgate Dr., Edison, NJ 08820; 800/213-4563. 1001-302

GRASS VALLEY, CA. SPARKLING COUNTRY HOME. Elegant 3BR 2B on 20 tree-studded acres on secluded hilltop 9 mi. south of town. Comes with 60ft crankup tower, TH7 tribander, 50-mile view, 360-deg radio horizon. $499K. ERIC, W6PZJ, 19600 Fairview Dr., Grass Valley, CA 95949; e-mal *ericpe@jps.net.* 10-11101

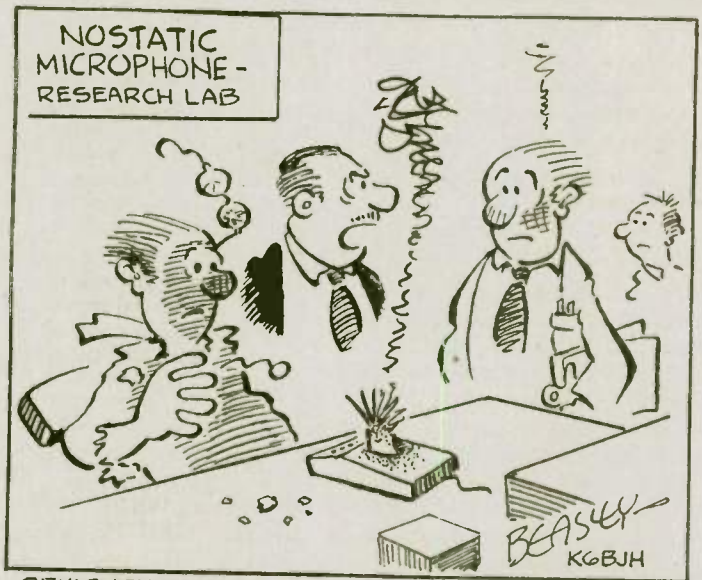
COUNTY HUNTERS: Worked All Texas Award — beautiful certificate! TEMPLE AMATEUR RADIO CLUB, P.O. Box 616, Temple, TX 76503; *www.tarc.org* 601-602

100 QSL CARDS $8.50 postpaid. Send stamp for sample. ARTIST, P.O. Box 148652, Nashville, TN 37214. 1001

WANTED: COLLINS RADIOS, parts estate sales. FRED, W6YM, 17890 Sharon Ct., Pine Grove, CA 95665; 209/304-1329 anytime or e-mail: *fbonnold@juno.com.* 1000-1001

FULL COLOR QSL CARDS HIGH GLOSS COATING. Send stamp for sample. ARTIST, P.O. Box 148652, Nashville, TN 37214. 1001

ELECTRON TUBES: Transmitting, receiving, military obsolete...all types. Large inventory. Fast delivery. DAILY ELECTRONICS, 10914 N.E. 39th St., Ste. B-6, Vancouver, WA 98682; 360/896-8856, 800/346-6667, fax 360/896-5476; e-mail: *daily@worldaccessnet.com*; website: *http://www.worldaccessnet.com/~daily/daily.html.* 1001-1002

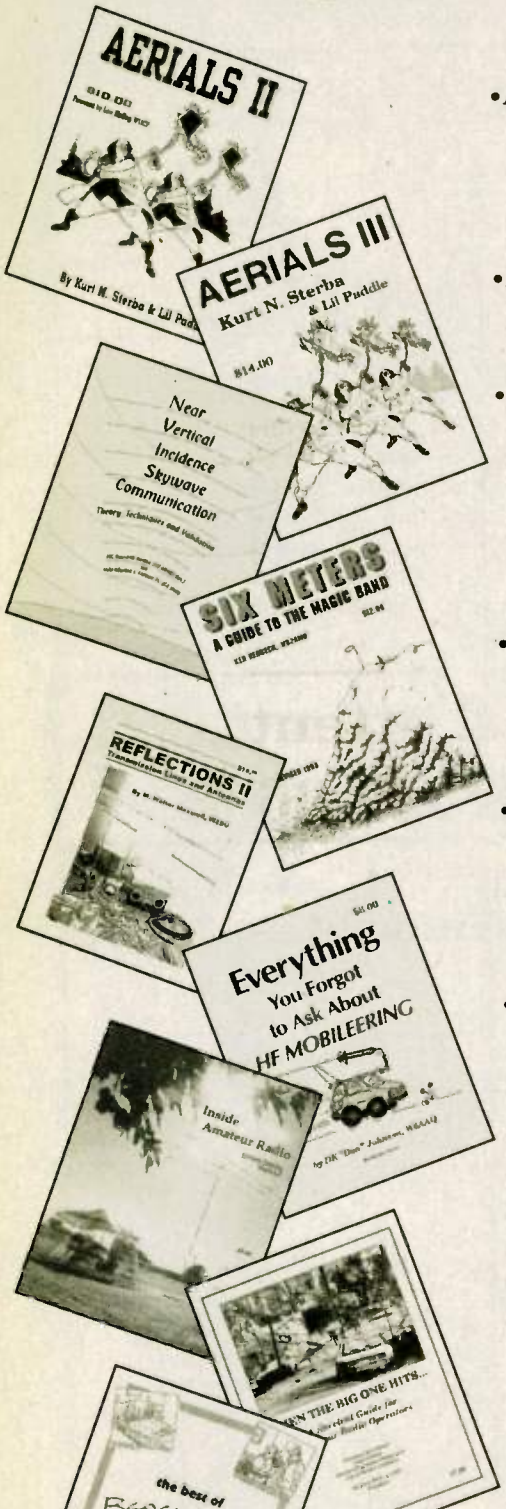


OBVIOUSLY, MOODY, YOU DON'T HAVE THE PROPER CONCEPT OF A BOOM MIKE!

ADVERTISERS' INDEX

Visit us on the web at: www.wr6wr.com

WORLDRADIO



- **AERIALS II**, *by Kurt N. Sterba & Lil Paddle*
  Kurt N. Sterba, along with his soulmate, Lil Paddle, take on the world of antennas in order to make sure that "Truth, Justice, and the dB claims, shall be correct, and maximum power with lowest SWR shall be available for all" rings out across the Amateur Radio world. 80 pp. $10.00 + $2.00 s/h ($4.00 for non-US ZIP air delivery.) CA residents add $.75 tax.

- **AERIALS III**, *by Kurt N. Sterba & Lil Paddle*
  Once again the wise words of our advocates for truthfulness in dB claims illuminate our minds. This is Kurt and Lil's latest collection of antenna insights. 160 pp. $14.00 + $2.00 s/h ($4.00 for non-US ZIP air delivery.) CA residents add $1.05 tax.

- **NEAR VERTICAL INCIDENCE SKYWAVE COMMUNICATIONS — THEORY, TECHNIQUES AND VALIDATION,**
  by LTC David M. Fielder & MAJ Edward Farmer, AA6ZM, P.E.
  A compilation of previously published articles regarding NVIS propagation and communication, a mode which allows medium and high frequency radio waves to "leap tall mountains with a single bound," enabling continuous, dependable coverage of areas of operation spanning several hundred miles. 144 pp., over 100 illustrative figures & tables. $14.00 + $2.00 shipping and handling. ($4.00 for non-US ZIP air delivery.) CA residents add $1.05 tax.

- **SIX METERS, A GUIDE TO THE MAGIC BAND, REVISED**, *by Ken Neubeck, WB2AMU*
  A labor of love by the author, the book provides comprehensive information on Six Meter equipment and modes. A little history of the Golden Age of Six Meters is provided along with some explanations for the causes of various forms of propagation. 96 pp. $12.00 + $2.00 shipping and handling. ($4.00 for non-US ZIP air delivery.) CA residents add $.90 tax.

- **REFLECTIONS II**, *by Walt Maxwell, W2DU*
  Greatly revised edition of the all-time classic, *Reflections*, with additional chapters. This will be your most prized reference regarding SWR, tuners and antennas. Myth-busting and truth-telling! Belongs on the bookshelf of every serious amateur. Softcover, 8.5" x 11", 416 pp., many charts, figures and photographs. Only $19.95 + $4.00 s/h (Non US ZIP delivery, contact us.) CA residents add $.150.

- **EVERYTHING YOU FORGOT TO ASK ABOUT HF MOBILEERING,**
  by Don Johnson, W6AAQ
  This long-anticipated update on mobile antennas is packed with tips garnered from amateurs all over the country who have found a better way to adapt their mobile antenna installation to their specific needs. 72 pp., many photos and figures. $8.00 + $2.00 s/h. ($4.00 for non-US Zip air delivery.) CA residents add $.60 tax.

- **INSIDE AMATEUR RADIO**, *by Lenore Jensen, W6NAZ*
  Interviews with the people who make Amateur Radio the engaging hobby that it is. A collection of short stories and anecdotes detailing courageous rescues, hilarious situations and heart-warming tales, as told by the hams who made them happen, through the "pen" of someone who truly knew what it was about "inside Amateur Radio." A must for every ham shack coffee table. 93 pp. $9.00 + $2.00 shipping and handling. ($4.00 for non-US ZIP air delivery.) CA residents add $.68 tax.

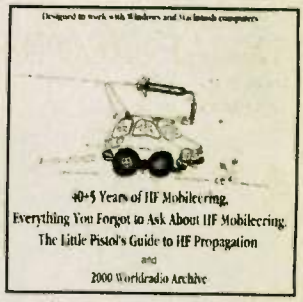
- **WHEN THE BIG ONE HITS**, *A Survival Guide for Amateur Radio Operators, by Jerry Boyd, KG6LF & Jay Boyd, KN6BP*
  Tells Amateur Radio operators what to do to prepare for survival, safety of families and loved ones, and perform disaster communications duties efficiently in the face of disaster. 56 pp. $7.50 + $2.00 s/h. ($4.00 for non-US ZIP air delivery.) CA residents add $.56 tax.

- **BEST OF BEASLEY**, *by Robert Beasley, K6BJH*
  "Oh, to see ourselves as others see us..." A wacky view of Amateur Radio through the eyes of a very clever cartoonist. Great gift for a fellow amateur. 112 pp. $8.00 + $2.00 shipping and handling. ($4.00 for non-US ZIP air delivery.) CA residents add $.60 tax.

BOOKS, etc.

•What does a well dressed Amateur Radio Operator wear when drinking out of a ***WORLDRADIO*** mug? Why, this classy ***WORLDRADIO*** cap, of course! Durable navy blue poplin with light blue imprint. $7.00+$2.00 s/h. CA residents add $.53 tax.

Guaranteed to make your beverage taste better! Cobalt blue 11-oz. ceramic mug with light blue imprint. $7.00+$4.00 s/h. CA residents add $.53 tax.



• The ***Worldradio*** 1999 CD-ROM Featuring the Aerials Trilogy, plus the whole 1999 year of ***Worldradio*** on archive for your viewing pleasure.
•The ***Worldradio*** 2000 CD-ROM Featuring books on HF mobileering and HF propagation, plus the 2000 ***Worldradio*** archive. Each are $24.95+$2 s/h. CA residents add $1.87 tax.

Would you like speedy, personal attention? Call WORLDRADIO — 916/457-3655

••••••••••••••••••Send your order to••••••••••••••••••

WORLDRADIO BOOKS • P.O. Box 189490 • Sacramento, CA 95818

Send me the following items:

QTY	TITLE	PRICE	TOTAL
____	AERIALS II	$10.00	_____
____	AERIALS III	$14.00	_____
____	BIG ONE...	$ 7.50	_____
____	SIX METERS...	$12.00	_____
____	BEST OF BEASLEY	$ 8.00	_____
____	INSIDE AMATEUR RADIO	$ 9.00	_____
____	NVIS COMM.	$14.00	_____
____	REFLECTIONS II	$19.95	_____
____	SD-20 Antenna Support	$19.95	_____
____	***WORLDRADIO*** MUGS	$ 7.00	_____
____	***WORLDRADIO*** CAPS	$ 7.00	_____
____	***WORLDRADIO*** 1999 CD	$24.95	_____
____	***WORLDRADIO*** 2000 CD	$24.95	_____
____	SCIENCE OF AUDIO	$24.95	_____
	SUBTOTAL		_____
	CA residents add 7.5% sales tax		_____
	S&H charges: $2.00 for the first book to an address, & $1.00/book for additional books. $4.00 mug, $4.00 Reflections II, $2.00 cap, $2.00 CD, $5 SD-20.		_____
	TOTAL PRICE		_____

❒ Check or money order enclosed for $_____

❒ Charge my credit card:
❒ VISA ❒ MasterCard ❒ American Express

Account Number Expiration Date

Signature

Name & call (please print)

Address

City/State/ZIP

Newsline turns 24

Rick McCusker, WF6O

Friday, 27 July marked a milestone in Amateur Radio history. That's the day when Amateur Radio *Newsline* (formerly known as the *Westlink Amateur Radio News*) was on the air with its 1,250th consecutive broadcast.

It all began in 1977 when Bill Pasternak, WA6ITF, was approached by his longtime friend, Jim Hendershot, WA6VQP. Jim asked Bill to help him produce a newscast for Ham radio operators. Bill thought the project would only last for a week or two. The first newscast eventually made its way to a cassette tape, and was broadcast from a motorcycle on top of Contractors Point, a hilltop above the San Fernando Valley.

Jim was the chief writer and anchor of what was then called the *Westlink Report* (named after the Western Linking System of repeaters in the Los Angeles area), and it wasn't long before word spread across the country about the new service. Jim and Bill were soon flooded with requests for copies of the newscasts. The duo shared the writing and editing duties for the next 76 weeks, with Jim manning the microphone every Sunday. But changes were just ahead.

Jim announced his impending marriage and move from the Los Angeles area, so Bill recruited the help of two of his friends — Bill Orenstein, KH6IAF, an audio engineer for NBC radio and Alan Kaul, W6RCL, a writer/producer for KNBC-TV. Report number 77 featured a mixed bag of talent with the late Zeke Manners as the man behind the microphone and everyone assisting with the production duties. The next broadcast featured Alan as the anchor and was the first produced entirely by the new team of Pasternak and Orenstein.

Additional talent soon began helping out, including Burt Hicks, WB6MQV, and another member of the broadcast industry, Jim Davis, W2JKD. Jim took over more of the anchor duties and was soon known as the "voice of *Westlink*."

Roy Neal, K6DUE, offered instruction on writing and researching stories, and Alan helped Roy teach Bill how to come up with compelling stories for each broadcast.

It was getting expensive to mail hundreds of cassette tapes around the country, so Bob Heil, K9EID, offered help in modernizing the system. The system is now put together using computer software and modern techniques used by mainstream media.

Newsline now has a presence on the Internet and continues to be a leader when it comes to the latest information about Amateur Radio. It's a labor of love for the volunteers who put each broadcast together, but it does cost money. *Newsline* relies on donations to continue their efforts.

For more information about the service see their web page at: *www.arnewsline.org*.

Congratulations to all the fine folks at *Newsline* on reaching this anniversary!

Periodicals Postage Paid
Sacramento, CA
and additional
mailing offices

Worldradio

(USPS 947000)
P.O. Box 189490
Sacramento, CA 95818-9490

POSTMASTER: Send this page (NOT A COPY — THAT'S WASTEFUL!) with changes of address to above. (Please include mailing label intact. Please do not obliterate ANY information on the mailing label.)