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WORLDRADIO

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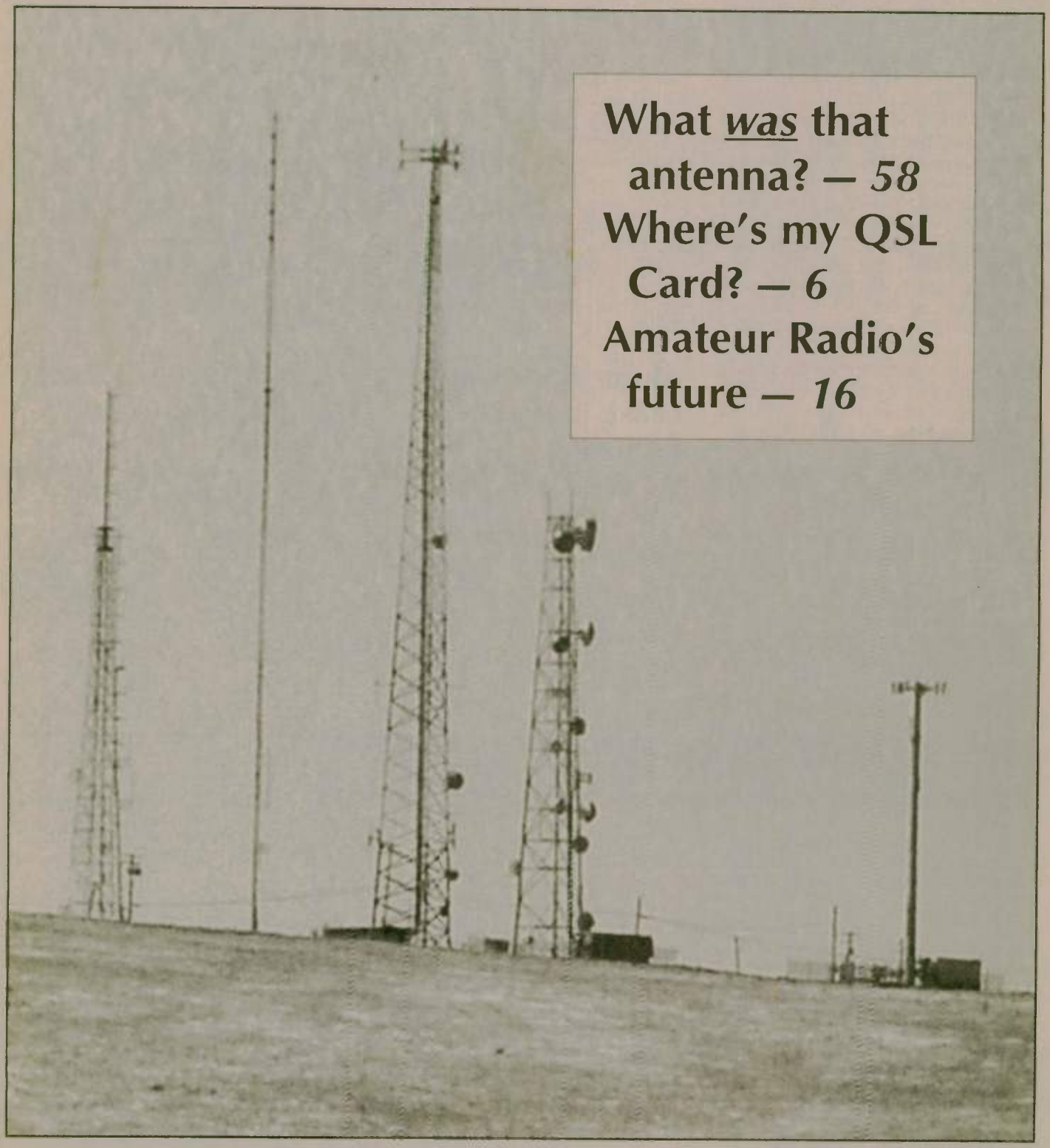

Amateur Radio — When the chips are down we get through

NCI unhappy with IARU Region III wording

At the recent Darwin meeting of Region 3 an item relating to ITU RR S25 and another motion in which the Conference addressed concern about the preliminary draft recommendation for WRC-03 (M-AOQ, ITU-R Document 8A/TEMP/91-E), which includes reference to "Radio Telegraphy" under a list of Operating Skills for the amateur license. The concern expressed by delegates was that "Operating Skills" could be misunderstood, and in fact it had been wrongly seen by some in the Amateur Radio fraternity as indicating the retention of a Morse code telegraphy skill. Delegates heard that in ITU terminology, Radio Telegraphy meant all digital modes of transmission.

In a motion proposed by the RSGB, and seconded by the ARRL, the conference resolved to instruct the IARU R3 representatives on the IARU Administrative Council to replace in the M-AOQ the term "Operating skills" with "Methods of communication."

No Code International say they cannot help but wonder if this minor wording change will prove to be sufficient to prevent those who favor retention of Morse testing from arguing that "M-AOQ requires Morse testing" to the administrations of the world. After all, what's the difference between "Operating skills" and "Methods of communication?" Both could be argued, by those so inclined, to require a demonstration of Morse proficiency as long as there is reference to "Radiotelegraphy" in the text. Additionally, if "in ITU terminology, Radio Telegraphy means all digital modes of transmission" why does the draft M-AOQ which was presented to the ITU also contain a separate and distinct reference to 'Data and Image' in the same section which recommends a requirement for 'Radiotelegraphy'?

Thus, despite the obvious good intentions of the R3 delegates, NCI's Executive Director, WA6VSE believes that M-AOQ still presents a potential problem in the future. He suggests that a better approach to "Mandatory Recommendations" is to simply "suppress" (delete) Section S25.5 and leave the remainder of S25 and S26 as they are. — *Q-News, Newsline*

Alpha/Power to cease linear manufacturing

Amateur linear amplifier manufacturer Alpha/Power Inc., of Longmont, Colorado, has announced plans to cease engineering and manufacturing operations once the current run of Alpha 87A and 99 amplifiers is completed.

Alpha/Power said that that warranty and post-warranty service will continue to be available. Dick Ehrhorn, W0ID/W4ETO, says that "a combination of health issues and family obligations" has made it impossible for John Brosnahan, WØUN, the president and technical director of Alpha/Power, to continue at his present pace with Alpha/Power. Ehrhorn said he's "not willing to risk that Alpha legacy" with someone else, "Nor am I aware of any person or entity with the desire, the proven ability, the commitment, and the resources to acquire Alpha and perpetuate the standards to which we've been dedicated for thirty-one years." Ehrhorn says the company remains open to "serious discussions," however. In 1996, Ehrhorn and Dave Wilson, AAØRS/G3SZA, bought back the Alpha amplifier business from ETO, which had merged with Applied Science and Technology in 1995. Ehrhorn founded ETO in 1970 and designed all the early Alpha linears. By 1995, it was a $20-million company. — *ARRL Letter*

FCC cancels license of "Captain Truth" suspect

The FCC has cancelled the license of the individual it strongly suspects was "Captain Truth." The Commission notified John M. Yount of Newton, North Carolina, on 5 September that it was canceling his Amateur Extra class ticket because he failed to appear for re-examination. Yount had held the call sign K4QIJ.

The FCC zeroed in on Yount last spring as a prime suspect in its "Captain

Truth" investigation into unidentified Amateur Radio transmissions and malicious interference. FCC Special Counsel for Amateur Radio Enforcement Riley Hollingsworth wrote Yount on 29 March, citing FCC and other close-in monitoring evidence that indicated Yount's station was the source of "malicious interference and jamming" on 20 and 75 Meters.

Hollingsworth said this week "Captain Truth" has not been heard on the air since the FCC's initial letter to Yount on 29 March. After failing to get a satisfactory reply, Hollingsworth wrote Yount in July requesting that he retake his examinations under the supervision of an ARRL-VEC volunteer examiner team on or before 1 September. "And he never showed up," Hollingsworth said.

The FCC says radio-direction finding bearings led to Yount's residence and antenna. Part of its monitoring evidence resulted from work done by the FCC's High-Frequency Direction Finding facility in Columbia, Maryland, the FCC said.

Yount suggested in his only reply to the FCC that there were a lot of vehicles and other houses on his property and that someone else could have been responsible for the transmissions the FCC had monitored and tracked.

Hollingsworth said he wrote Yount again on 1 June to seek clarification and additional information in the ongoing investigation before sending the retesting notice on 17 July. "I never heard from him again," Hollingsworth said. — *ARRL Letter*

This is business — stop!

A Nebraska amateur who was allegedly running a business-like operation on the Ham bands has been told to stop. The incident took place on 12 August on the KØUSA repeater and according to the FCC's Riley Hollingsworth, there is a line between casual sales and full time sales.

"We sent an advisory notice to James Baudo, NØUQZ, of Omaha, that his offers of equipment consignments, bank financing and lay-away plans went considerabaly beyond Rule 97.113 that allows Amateurs to notify others of the availability of equipment, as long as it is not done on a regular basis," Mr. Hollingsworth said.

Hollingsworth told Baudot to review Sections 97.1 and 97.113 of the Commissions Amateur Service rules and to call him if he wishes to discuss the matter further. — *FCC, Newsline*

WORLDRADIO

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Features

Departments

Next month: 10-10 International News, Computers & Basic Stuff, HF Mobile, MARS, Positively CW, Wires & Pliers.

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How to get a free tower

Something you probably don't know about Armond and me — We are both HUGE baseball fans. Recently, an AAA minor league team moved to the Sacramento area, and we both have been to several games. Armond actually was an excellent pitcher, playing on teams around Southern California. I have always enjoyed playing the game, but the farthest I advanced was a recreational adult baseball league here in Sacramento. One day, during my third season in the league, I went back for a missed pitch (yes, I was a catcher), stepped in a hole and my right knee decided my ball playing days were over.

But not to fret — ***Worldradio*** gathered this fine group of Hams to form our own team! We are more than pleased to announce this month's lineup of our very own major league team. "Ladies and Gentlemen", the PA announcer says. "Here come the ***Worldradio*** Lifers!"

Lining up along the third base line are:

- **Leonard J. Ulmina, K1LU**
  Marlborough, MA
- **Robert Cariello, N2FRM**
  Marlbor, NJ
- **Clifford A. Smith, N2AKZ**
  Patchogue, NY
- **Ralph Irish, WA8GDT**
  Utica, NY
- **Daniel Kamm, K9JPB**
  Deerfield, IL
- **Joe E. Topinka, WA9LAE**
  Berwyn, IL
- **Thomas Paul Tishken, KD4WOV**
  Springfield, MO
- **Pete Norris, KJ5SS**
  Richmond, TX
- **Harry Ober, WB6CGZ**
  Ash Fork, AZ
- **George H. Carle, N7ARY**
  Olympia, WA
- **Brian Adams, N7DEY**
  Reno, NV
- **Stephen J. Shane, W6NRQ**
  Hemet, CA
- **Myrle McLernon, KQ6Y**
  Lancaster, CA
- **Michael A. Heil, WA6PSQ**
  Benicia, CA
- **Douglas C. Smith, K4OAP**
  Los Gatos, CA
- **Gary Hott, NG7V**
  Everett, WA
- **Thomas G. Howard, N7KUH**
  Seabeck, WA

With the baseball season now over, we have plenty of time to work on our razzle-dazzle moves for next season!

•

I had an interesting conversation with a YL a couple of weeks ago. She called for some help with a problem.

A friend of hers had recently passed away (he was a Ham) and his daughters were preparing the house for sale. The YL had moved to another state, and was now in an area where the CC & R Police don't allow outside antennas. She told me she had a 50-ft. tower laying in the backyard of the house, and it needed to be sold or moved as soon as possible. Did I know anyone who could help? Well, of course! That's what we're here for!

I obtained the address of the house, and stopped by a couple of days later to inspect the tower, determine its worth, and put out the word at some of the club meetings. If nothing else, I was prepared to move the tower to my QTH until it could be sold as a favor for this YL in another state. Only problem was — no tower! I called the YL and told her about not being able to find the tower. She called the daughters of the Silent Key, and they said, "Yes, it's there."

After another phone conversation, I went back to the house and looked around, again. The neighbor wanted to know why I was snooping around the house, so I told her the story. She was not aware that the Ham was now a Silent Key, and helped me look for the tower. Now, I know what a tower looks like, and the only thing I could find were pieces of a bent beam, and the remnants of a very rusty push-up pole. I called the YL and told her I could not find the tower.

Yesterday, the YL called me and was very, very upset. It seems that unknown persons had removed the tower from the backyard a couple of days after the Ham became a Silent Key. Neither her nor the daughters of the Silent Key had given permission for anyone to touch anything, so it boils down to this — someone heard that this Amateur Radio operator is now a Silent Key, and decided to help him/herself to a free tower. After all, it must have belonged to the Silent Key, and he surely doesn't need it anymore.

So somewhere in Northern California is a Rohn 50-ft. self supporting tower that has been or will soon be raised. I hope the new "owner" enjoys his/her STOLEN tower!

Yes, boys and girls, Amateur Radio, as well as the rest of society certainly has a few bad seeds in it.

•

I did mention that I had installed a RadioShack 10-meter mobile in my truck in a previous editorial. Well, I have moved up in the world of HF mobile. I now have a Yaesu FT-100 along with the ATAS-100 mobile antenna. I monitor the 20-meter SSB band while commuting from home to the office and back again. I'm listening between 1430-1450Z and 1130-1200Z, Monday - Friday. If you hear my call sign, feel free to say "HI."

"Brick-Wall" Selectivity

Today s elite-class operators demand the best RF weaponry available. Yaesu s exciting new MARK-V FT-1000MP answers the call, with an expanded array of receiver filtering, 200 Watts of power output, and Class-A SSB operation capability for the cleanest signal on the band. Enhanced front-panel ergonomics save you seconds in a pile-up or a contest run, and Yaesu s HF design and manufacturing know-how ensures that no short-cuts have been taken in our effort to bring you the best HF transceiver money can buy. For more QSOs in your log, and more awards on your wall, there is only one choice: the MARK-V FT-1000MP from Yaesu!

I. IDBT: Interlocked Digital Bandwidth Tracking System

The IDBT feature greatly simplifies operation by matching the bandwidth of the DSP (Digital Signal Processing) system to the net bandwidth of the 8.2 MHz and 455 kHz IF stages. The IDBT system accounts for the settings of the IF WIDTH and SHIFT controls, and automatically sets a DSP bandwidth which matches the analog IF bandwidth.

II. VRF: Variable RF Front-End Filter

Protecting the MARK-V s receiver components from strong out-of-band signals, the VRF system acts as a high-Q Preselector, located between the antenna and the main bandpass filter networks, providing additional RF selectivity on the 160-20 meter Amateur bands for multi-operator contest teams, DX-peditions, or for operation near MW/SW broadcast stations.

III. 200 Watts of Transmitter Power Output

Utilizing two Philips BLF147 Power MOSFETs in a 30-Volt, push-pull configuration, the MARK-V s transmitter puts out up to 200 Watts of clean output power, thanks to the conservative design of the PA section.

Class A 75 W PEP IMD

IV. Class-A SSB Operation

Exclusively available on the MARK-V FT-1000MP, a press of a front-panel button engages Class-A SSB operation of the transmitter, at a power output level of 75 Watts. Class-A operation produces incredibly clean signal quality, with 3rd-order IMD suppressed 50 dB or more, and 5th- and higher-order products typically down 80 dB or more!

V. Multi-Function Shuttle Jog Tuning/ Control Ring

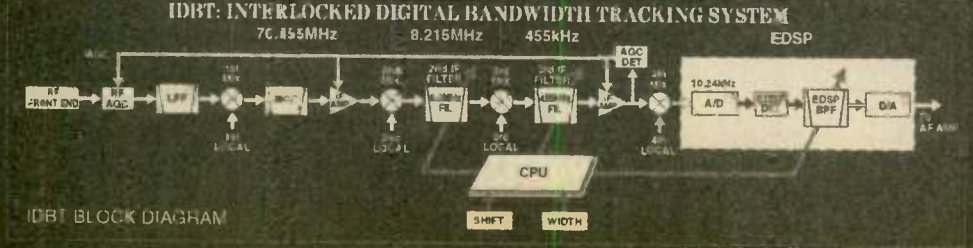
The immensely-popular Shuttle Jog tuning ring, which is concentric with the Main Tuning Knob, has a new look in the MARK-V: it now includes the activation switches for the VRF (left side) and IDBT (right side) features, so you don t have to move your hand position to activate these important circuits during contest or pile-up situations!

IDBT - A Breakthrough in Selectivity!

Photo shows optional MD-1B8 Deluxe Desk Microphone

HF 200 W All-Mode Transceiver

MARK-V FT-1000MP



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I'm here to get my QSL card

Robert Ray, WB4TCH

It all started 03 March 1974, on a Saturday morning in Enterprise, Alabama. A DX contest was in progress and I was flipping from band to band working "new ones." I had just worked CR6NO on 15 Meters when I was called by ET3LSB. I was amazed that a rare DX station had bothered to call me! It turned out that the operator was a fellow named Terrell who was working for the U.S. State Department in the city of Asmara, province of Eritrea, Ethiopia. Terrell was originally from Dothan, Alabama, about 25 miles down the road from Enterprise. Like ET, Terrell could not resist the opportunity to "call home." We didn't talk for long, because on 15 Meters my rig wiped out my neighbors television. I did get the call of his QSL manager in Tampa, Florida. Little did I know that I had just taken the first step of a long journey.

I sent my QSL card to the manager in Tampa with the usual SASE and waited and waited. About six months later, I sent another card with the same results. This went on for some time and I never got a response.

As time went by, a civil war erupted in Ethiopia and Ham radio ceased to exist in that country. There just was no way to work Ethiopia. The frustrating part was I HAD worked Ethopia — I just couldn't get a card!

Years went by and Ethiopia continued to climb the "most wanted" DX countries list. I was down — but not out. I decided to try the Tampa manager one more time. But this time I included a note that said, "DO SOMETHING! DON'T JUST DO NOTHING! TALK TO ME!" I got a response. He said Terrell had never sent his log books, so he could not send me a card. The last he heard, Terrell now lived in Maryland. He gave me Terrell's address but wasn't sure it was still current. Progress!

I fired off a QSL request to the Maryland address with a note explaining how I had been trying to get in touch with him. To my surprise and great joy, I got a response. Terrell said that anyone who had been trying for five years to get a QSL card certainly deserved one. He promised that as soon as he got them printed he would send me one. Guess what? Nothing happened.

Time passed and I moved to Memphis, Tennessee. On a business trip I found myself spending the weekend in Silver Spring, Maryland. With nothing to do, I remembered Terrell. I remembered the name of the town in Maryland but I didn't have an address and had no idea where his town was located. The telephone book listed an exchange for Terrell's town but did not list any telephone numbers. So I suspected that the town was nearby.

I decided to go for a drive with no idea where I was going. I was driving down this four lane road when to my amazement there was an exit sign to Terrell's town! I found the town, pulled into a convenience store, and asked the proprietor if he knew Terrell. He said sure, that I should proceed for four blocks, turn left for two blocks, then right and Terrell lived in the third house on the left. Unbelievable!

As I pulled up to Terrell's house there was a dozer pushing dirt back and forth in his yard. I parked the car on the street, got out and joined a couple of guys watching the dozer. Now, picture this. Three guys standing side by side, hands clasped behind their backs, rocking back and forth on their heels, not saying a word, watching this dozer push dirt around.

The dozer operator finished his work and the three of us guided him up on the truck. Terrell wrote the owner a check and the owner and dozer operator left. For the first time, Terrell noticed me. He turned to me with a look that said, "Who are you, I thought you were with them?" I stuck out my hand and said, "My name is Robert Ray. I'm WB4TCH and I am here to get my ET3LSB QSL card." I can still see the astonished look on his face.

The date was 20 June 1981. It had been two years since I heard from Terrell. It had been seven years, three months and 17 days, since I made the DX contact that launched me on this journey.

We found Terrell's logbooks still packed in boxes in his basement and brought them upstairs to the kitchen table. Terrell ran his finger down the pages looking for my call sign and proclaimed, "Yep, here you are, you are in the log. Just as soon as I get the cards printed I will send you one." Now, where have I heard that before? I said, "Whoa, here is what I want you to do. Here is a pen and paper and I'll tell you what to write." Terrell wrote my ET3LSB QSL in long hand and the ARRL accepted it. That hand written QSL is one of my most prized Amateur Radio possessions, even though Ethiopia is not really rare today.

Journey completed. Oh, as I walked out the door, Terrell said he was going to get some cards printed and he surely would send me one. What do you think?

Ham radio to the rescue

Wayne Robertson, K4WK

Once again Ham radio proves it worth as I take credit for saving the lives of eight endangered nanny goats in North Carolina. I don't mean endangered species, I mean in danger by being in harm's way. On a recent day in April, I am zipping along I-95 maybe 25 miles outside of Raleigh, North Carolina, and come up on the cloverleaf with I-40. It's been a pleasant day, the weather has been good, altogether, a nice day for a ride. I had flown into Raleigh that morning from Atlanta, to attend a meeting in Fayetteville, about 70 interstate miles away. I prefer the larger planes that fly to the larger Raleigh-Durham airport to the puddle-jumpers and tree-toppers that "fly" (hop, really) to Fayetteville. Oh yes, I know a lot of paratroopers inhabit nearby Fort Bragg, and they would scoff at my concerns, but my paratrooping days are over and besides, the fares are lower into Raleigh.

So, I carefully prepared for the rental car experience and ensuing journey in the country by packing my HT, the size, shape and weight of a brick — the kind without the three holes, a cigarette lighter power takeoff (PTO for my truckin' friends) and my nifty new antenna rig for travelin' and babblin'. What about the goats you wonder? Please don't interrupt — I'm busy now, speaking of the light and joy of any red-blooded Ham; a new gadget. This gadget, this wonder, is an NMO-antenna connector situated astride a metal clip designed to go on windows when they are rolled up. I bought this gadget because traveling with a magmount in your briefcase makes it heavy, and magnetic. Something like this in your carry-ons may attract the attention of security at the airport when you come through the x-ray machines.

The wonder gadget has a lengthy coax cable with a PL connector on the end. All you have to do is remember to bring your NMO-based antenna and you're good to go. You're good to go, that is, if your radio brick accepts a PL connector. If it prefers, say, a BNC connector and if you, say, forgot it, you are, as they say, up the river.

And up the river is where I was on this DX-pedition. No lousy PL-BNC adapter, no DX. In fact, I could hardly get out of the car, it being mostly ferrous metal and all. A sympathetic Ham who could hear me when I was directly under his repeater for 30 seconds at highway speeds offered me a handful of the precious adapters but alas I had no time for a detour that day. So, using the rubber duck I had a few brief QSOs with the commuting Hams in Raleigh but was soon out of shouting distance.

On down the road and out in the county I was scanning about, when I encountered an interesting conversation in progress at 177.38 MHz or thereabouts. Were these pirates, or were they Hams operating on a special experimental frequency? Here's the most interesting part. I scanned on and lower down, around 115 MHz, I heard them again! Most amazing. I have formulated a theory about this but I'd like to hear yours first. Send me your ideas and I'll publish the most outlandish next time, if there is one.

And the goats? Rounding the bend where I-95 leads to I-40 and back to the airport, I spot nanny goats grazing on the verge. I look again and don't see a fence between me and them, or a shepherd anywhere around. This was a grave situation and called for quick thinking to avoid either a car disaster or a goat disaster. I keyed up my brick with the rubber-coated dummy load and miraculously was heard by a Ham with a phone, who alerted the authorities and saved the herd. I felt so proud!

(Be careful with your HT around a construction site; a mason may pick it up and use it).

David Splitt, KE3VV

Techs on HF? Deja vu or something new?

It was just a casual summer ragchew among friends on a local Michigan repeater, when Wexford county Ham Rick Hockridge, K8WZS, overheard two Extra Class VE's congratulating a Technician on passing the 5 wpm Morse code test. Then he heard something that peaked his interest... "I hope you enjoy your new HF privileges," one of the VE's remarked. WHAT? Rick, who held Tech Plus license KB8WZS until 1998 when he upgraded to General, was sure that the VE had misspoken. He was sure that the old Technician Plus license had gone the way of the gooney bird as of 15 April 2000, when the FCC Restructuring Order had gone into effect. Hmmmmmmm.....

Rick and his Ham buddies spent some time over the next week checking out current status of the Tech Plus license. Every VE they talked to seemed to have a different answer. Rick told me they called ARRL HQ in Connecticut for some help and got part of the answer. But they were also confused when a couple ARRL staffers gave them differing information on what happens when a Technician licensee passes the Morse code test.

I looked at the ARRL web site (www.arrl.org/field/regulations/news/part97/) and discovered that the FCC Rules on that web page (the HTML version) did not include the Restructuring Order changes. The alternative views (ASCII and PDF) appeared to be correct. I e-mailed the Regulatory Info manager, John Hennessee, N1KB, about the discrepancies, so I am sure the web page will be fixed by the time this is published. You can check the Part 97 sections cited in this column against the web site if you want to be sure the corrections have been made. Anyway, back to the K8WZS saga....

Rick then decided it was time to go to the top of the mountain and visit the FCC Rules and Regs guru. He contacted ***Worldradio*** and a day later was on the phone with KE3VV. We spent some time wandering through the FCC Restructuring Order and the modified FCC rules and found the answers. We also discovered some possible sources of confusion. But why make it easy? You, too, can put yourself in K8WZS's shoes and face down the so-called authorities and expert wannabes. Remember, this is just a magazine column (and not a big bucks TV show), so you don't have to give your "Final Answers" until after you finish reading the whole quiz.

On with the Quiz!

The first question is easy. But keep in mind that the Question Pool Committee of the National Conference of Volunteer Examiner Coordinators got it wrong, so don't feel bad if you blow it too. Here goes.

1. How many different Amateur Radio licenses are there now (after 15 April 2000) and what are the names of the licenses?

If you are stumped, maybe it is the form of the question. Well, here is the way the National Conference of VEC's put a similar question in the Element 2 (Technician Class) Question Pool.

T1A07 What are the U.S. amateur operator licenses that a new amateur might earn?

A. Novice, Technician, General, Advanced

B. Technician, Technician Plus, General, Advanced

C. Novice, Technician, General, Advanced

D. Technician, Technician with Morse code, General, Amateur Extra

Did that help you find the right path? If you say, "No," don't feel bad because the correct answer is "NONE OF THE ABOVE." The VEC answers are all wrong. According to the VEC's the answer is "D" and the reference for their answer is Part 97 of the Code of Federal Regulations (CFR), Section 97.9(a). However the license class "Technician with Morse Code" is not found in Sec-

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 18 September 2000. 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	KCØIUR	++	ABØOP
1	KB1FPQ	++	AA1ZZ
2	KC2GWX	++	AB2KH
3	KB3FLA	++	AA3VR
4	KG4JLK	++	AG4CF
5	KD5LPM	++	AD5AE
6	KG6DFV	++	AD6SJ
7	KD7KIY	++	AE7TA
8	KC8PIX	++	AB8IW
9	KB9WZG	++	AB9AC
N. Marianas	KHØKF	++	++
Guam	KH2UZ	++	++
Hawaii	NH7CM	++	++
American Samoa	WH8ABD	KH8DO	AH8T
Alaska	WL7CVE	KLØYH	++
Virgin Island	WP2AIM	NP2LE	++
Puerto Rico	WP3HT	++	WP3H

++ All calls in this group have been assigned

(NOTE: Advanced Class calls are no longer issued by the FCC. This category has been dropped.)

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tion 97.9(a) or anywhere else in Part 97. The FCC never created that class of license. It does not exist. You can't get one.

Section 97.9(a) lists the following license classes: "Novice, Technician, Technician Plus (until such licenses expire, a Technician Class license granted before 14 February 1991, is considered a Technician Plus Class license), General, Advanced, and Amateur Extra." OK, so asking what licenses EXIST after 15 April 2000 was a bit of a trick question, because none of the six existing licenses were abolished outright (forcing the current licensees into license class limbo). So the answer to my question 1 is "6," and the names of the licenses are "Novice, Technician, Technician Plus, General, Advanced, and Amateur Extra."

Don't feel bad if you said, "Technician, General, and Amateur Extra," (in fact, go ahead and give yourself half credit!) because those are the only licenses "that a new amateur might earn" after restructuring. Why? Because the modified provisions of CFR Part 97, Section 97.17(a) say that "No new license grant will be issued for a Novice, Technician Plus, or Advanced Class operator/primary station or RACES station." (By the way if you included RACES in your answer, have another beer and go back to watching NASCAR re-runs.) What about "Technician with Morse code?" — the VEC's just made that up to confuse everyone. It is not a real license class, and hopefully none of the VE's is actually using that question from the pool on real exams. Hey! On with the quiz and a really easy one...

2. There are 4 test Elements for amateur radio licenses... Elements 2,3, and 4 are written tests. What is Element 1?

Element 1 is the 5 words per minute Morse code test... but you knew that. Here's a corollary question (no credit, but it will warm you up for the next tough one). When you pass Element 1, what license do you get? You got it!! NONE. You have to pass at least one of the written exams to get a license. But remember this easy Q&A because it may help you to answer one of the tougher questions yet to come... but not this one.

3. Can a Technician Plus licensee renew his license?? If "yes," what license does he get when he renews?

Absolutely! All six of the existing license classes can be renewed, including the ones that will disappear when their holders upgrade to a higher license class, let their licenses expire and do not renew before the end of the grace period, or just expire themselves (Novice, Technician Plus, and Advanced). However, you can't keep your Technician Plus license when you renew. After Restructuring, the modified CFR Part 97, Section 97.21(a)(3) reads, "Application for renewal of a Technician Plus Class operator/primary station license will be processed as an application for renewal of a Technician Class operator/primary station license."

The FCC saw no need to keep two types of Technician licenses, so it eliminated the Tech Plus — well almost. Those of you who hold valid Tech Plus tickets don't have to "turn them in" until they are up for renewal. Then, unless you upgrade or abandon Ham radio, you will get a license that reads "Technician." In any event, in less than 10 years (barring resurrection in some unforeseen FCC order) there will be no more Tech Plus licensees.

4. Does a Technician Plus licensee gain or lose any operating privileges when he renews his license?

Nope! The reason for this answer will become clearer as we proceed through the rest of the test, but suffice it to say for now that when a Tech Plus renews his or her license and becomes a Technician Class licensee, there is no gain or loss of privileges. That was one of the "goals" or "ground rules" established by the FCC in its Restructuring Order — no licensee was to gain or lose any operating privileges due simply to the changes in the license structure. Everything really becomes clear with the answer to the next question, so let's not tarry.

5. When a Technician licensee passes the Element 1 test, does he gain any additional operating privileges?

Yes! YES! and ONLY YES! Those of you who are nit-pickers will want to qualify this response by noting that Tech Plus licensees who renew and become Technicians will have not have to take Element 1 to gain any additional privileges. You are correct, of course. So lets proceed toward an explanation of the "Yes."

6. If your answer to question 5 is "no," what does the Technician licensee have to do in order to get additional operating privileges? If your answer to question 5 is "yes," what additional operating privileges does the Technician licensee get?

The order here is backwards from the usual so that we can dismiss the "No's" and get on with it. You already know that once a Technician passes the 5 wpm Morse code test that more privileges are granted, so what are they? Techs who pass Element 1 get the same HF privileges that were granted to Novice and Tech Plus licensees prior to Restructuring. The FCC eliminated the Tech Plus license class, but kept the upgrade in operating privileges that were (are) granted to the Technician who passes the code exam.

I should note that, except for their creative (but erroneous) inclusion of the "Technician with Morse code" as a license class in question T1A07, the VEC Question Pool Committee got the rest of the test questions related to the Technician licensee who has passed the Element 1 exam. For example, question T1B11 asks, "What are the frequency limits of the 10-meter band for Technician class licensees who have passed a Morse code exam?"

A. 28.000 - 28.500 MHz
B. 28.100 - 29.500 MHz
C. 28.100 - 28.500 MHz
D. 29.100 - 29.500 MHz

The correct answer is "C." This means that Technicians with Element 1 credit can use portions of the 10-meter band. And that's not all! Under the provisions of the post-Restructuring FCC Rules, Part 97, Section 97.301(e), the HF privileges of control operators who have been "granted an operator license of Novice Class or Technician Class and who has received credit for proficiency in telegraphy in accordance with the international requirements" include 3.675-3.725 MHz on 80 Meters, 7.10-7.15 MHz on 40 Meters, 21.10-21.20 MHz on 15 Meters and the aforementioned 28.10-28.50 MHz

segment of the 10-meter band.

An extra credit question here might be whether Technicians with these HF privileges can use any type of emission on these bands (within the appropriate limits of the band plan, of course)? The answer is no. Like their Novice Class counterparts, the Technicians with Morse code exam credit are limited under Part 97, Section 97.307(f)(10) to "CW emission using the international Morse code or phone emissions J3E and R3E," so RTTY, SSTV, and other HF wunderschtuff awaits an upgrade.

7. If a Technician licensee passes the 5 wpm Morse code test, the VE will give him a CSCE (Certificate for Successful Completion of Examination) for Element 1. If that Technician class licensee waits 14 months to take the General class written exam (Element 3), does he have to re-take the Element 1 test in order to qualify for upgrade to General class? Explain your answer in one short sentence.

Wow! Almost an essay question, but not quite. The answer is "Yes." The reason is that the CSCE is only good for 365 days (which is less than 14 months). So you Techs who pass Element 1 should go for it and take the General written test (Element 3). But the plot thickens, so read on, because, as the White Rabbit might have said before disappearing down a hole into Wonderland, "sometimes an expired CSCE is not an expired CSCE."

This is also where the advice that K8WZS and his Ham compadres got from the ARRL sources (who shall remain nameless) got mixed reviews. I am not gonna come down too hard on the ARRL experts here because the FCC made this part really confusing, and because the question they asked the ARRL was "how long is a CSCE valid for a Technician licensee who passes Element 1?" As everyone knows, CSCE's are like Cinderella's carriage with a one-year (rather than just until midnight) warranty. If you don't do the rest of what you need for an upgrade within 365 days, you have to re-take the test.

That is because under Part 97, Section 97.9(b), "The person named in an operator license grant of Novice, Technician, Technician Plus, General or Advanced Class, who has properly submitted to the administering VE's a FCC Form 605 document requesting examination for an operator license grant of a higher class, and who holds a CSCE indicating that the person has completed the necessary examinations within the previous 365 days, is authorized to exercise the rights and privileges of the higher operator class until final disposition of the application or until 365 days following the passing of the examination, whichever comes first." But don't use that knowledge to answer the next question!

8. If a Technician licensee who has passed the Element 1 test (and received a CSCE for Element 1) does not take the General Class written test (Element 3) within 365 days, does he lose any operating privileges? If "yes," what operating privileges does he lose?

Nope. The Technician can have a legal QSO on 40-meter CW on the 366th day because even though the CSCE is no longer valid for an upgrade, the Tech loses no privileges. The CSCE has indeed expired, but the HF privileges granted under Part 97, Section 97.301(e) live on. The VEC question pool includes an interesting question that delves into the metaphysical aspects of the expired CSCE and the non-existent Technician with Code license class. Question T1B12 from the VEC question pool asks, "If you are a Technician licensee who has passed a Morse code exam, what is one document you can use to prove that you are authorized to use certain amateur frequencies below 30 MHz?"

A. A certificate from the FCC showing that you have notified them that you will be using the HF bands.

B. A certificate showing that you have attended a class in HF communications.

C. A Certificate of Successful Completion of Examination showing that you have passed a Morse code exam.

D. No special proof is required.

The VEC Committee says that the correct answer is "C," which is true enough, but they base their question and answer on Part 97, Section 97.9(b), which is quoted above and may have led to some of the confusion. The CSCE does indeed expire for upgrade purposes, but the HF privileges that were conferred when it was earned do not expire. I suppose that it would be good to keep it around (if you don't upgrade within 365 days) so if you are stopped by the Frequency Police, you can show them your expired CSCE "evidence" that you have HF privileges. Of course, that may not satisfy the confused Frequency Police, so maybe you'd better keep a copy of this column in your wallet.

You now know the TRUTH and the FACTS and the REAL SKINNY on the Technician license, so the rest of the questions should be easy.

9. If you go to a VE session and pass the tests for Elements 1 and 2, what license (based on a valid application Form 605, etc.) do you receive from the FCC?

You get a Technician Class license. Nothing on that license will in any way indicate that you have (a) passed the Element 1 Morse code exam or (b) that you are entitled to some limited HF operating privileges.

10. If you have a Technician license and go to a VE session and pass the Element 1 test, what are you entitled to receive from the VE?

You get a Certificate of Successful Completion (CSCE) for Element 1. If you return within 365 days and pass the Element 3 exam, you can apply for a General Class license (or with both Elements 3 and 4, you get the whole Amateur Extra egg roll and all that bandwidth!!).

11. EXTRA CREDIT. If you have a Technician license and go to a VE session and pass the Element 1 test, what will you get from the FCC?

Nothing. Nada. Bupkis. And that is why the FCC is the real source of all this confusion. Because the FCC Restructuring Menu left us the Hamburger but eliminated the Cheeseburger. Then, without so much as an asterisk, the FCC retained the Cheese option. Not the Cheeseburger, but the Hamburger with Cheese. You want fries with that?

— David Splitt, KE3VV, can be reached by writing to: 6111 Utah Avenue, N.W., Washington, DC 20015, or by e-mail: davidsplitt@erols.com

"Submarines on the air" special event

Bob Wheaton, W5XW

On Sundays I'm a net control station (NCS) for the Tin Can Sailors Net (14.255 MHz 15:00 local), a Navy oriented net for Hams interested in or who served aboard Navy destroyers, smaller ships which have thin hulls and bounce like "tin cans." Last year Tom McNulty, KØEFV, enticed me into working some of the submarine memorial Ham stations set up for this annual event. Tom, for the second year, was traveling from Waterloo, Iowa, up to Maintowoc, Wisconsin, to help "reactivate the radio room" for the submarine USS *Cobia*, SS245, tied up pierside at the Wisconsin Maritime Museum as a submarine memorial. The shipyard at Manitowoc built 28 subs for the USN during WWII.

Tom's enthusiasm was so infectious I did a little "sub chasing" that weekend and was surprised to be able to work four. Besides working the *Cobia*, I worked *Torsk*, the Russian sub U-484 at St. Petersburg, FL, and the German U-boat, U-505 at the Museum of Science & Industry in Chicago — a really special contact since I have actually climbed through the U-505 as a 15-year-old boy considering naval service after high school. Well, I was hooked.

With the QSL's I received came notes telling me of Jim Flanders, WØOOG, a Piano, Texas, amateur who, at no charge ,sends out a nice certificate to all who send him photocopied confirmation of four or more QSL's from special event submarine memorial stations worked. So, I sent Jim the required 9 X12 envelope with 55 cents postage and back came his nice certificate, one designed as a "perpetual" to be updated with new submarine picture stamps he also furnishes for proof of new contacts. Jim's a Navy veteran and served on submarines USS *Becuna* and USS *Redfin*.

An idea was germinating in my mind, so with my request to Jim I inquired whether anyone has ever "activated" the Japanese 2-man submarine on display at the Admiral Nimitz Museum in Fredericksburg, Texas. Jim replied that it would indeed be a "new one," and encouraged me to work on it.

Then the fears about Y2K developed and I decided to delay any effort to plan April 2000 activities there until after the Y2K effects got sorted out. As you know, Y2K was pretty insignificant, almost a non-event. While sitting around the table in Hubert Tatsch's (KC5HRN) dining room in March after five KARS members helped with his "antenna party," I discussed the annual "Submarines on-the-Air" event with Richard McDaniel, RMC, USN Ret., and Don Irwin, KM5SY, GS3(SS), both "Navy" like myself. David McDaniel, AB5UE, and Hubert Tatsch, KC5HRN, were also there and voiced enthusiasm for the idea of KARS doing an April special event operation at the Nimitz Museum if it were still possible to set it up in time. I agreed to contact the Nimitz Museum to determine their interest.

After a few phone calls I'd made an appointment to meet with Mrs. Helen McDonald, of the Nimitz staff, and drove up there with Richard and Don to put our plan before her and to "recon" the place for possible operating sites, antennas, etc. Mrs. McDonald gave us a quick tour, facilitated our taking a team photograph beside the mini-sub HA19 to use on our special KB5TX QSL card, and assured us access to a porch opening to the Japanese Peace Garden for our operating site, and to the "crow's nest" atop the building to rig for antennas. She also promised her report on our meeting would be on the director's desk that week, and that her recommendation would be a definate "YES!" She remembered an earlier Ham operation there in 1993 during the CINCPAC Staff Reunion.

That was by local Hams with some KARS participation. Tony Patti, W5VHR, told me later about if. They'd left a positive impression of Hams, and Mrs. McDonald and the Nimitz staff worked to accomodate us in every way once it had the director's OK.

After our first meeting we presented it to the KARS board of directors, and after committing KARS help, $100 was authorized for incidential expenses to buy QSL's. That same evening it was presented to the membership at the April meeting and members were encouraged to volunteer their time and help.

On Friday, 28 April, David, Richard, Don and I drove to the Nimitz to put up antennas and test for PA system interference. Thankfully there was none. With David's fiberglass mast up and

secured, we rigged from the crow's nest, and pulled up our three dipoles tied end-to-end in a single strand of wire and halyard. Average antenna height looked to be about 40 feet. Three feeders dropped conveniently right in front of the operating site on the porch.

Saturday before 9 a.m. we began operation and that day confirmed contacts for the Japanese mini-sub, making about 300 contacts on 10, 15 and 20 Meters. We invited everyone to work with us again Sunday for a contact confirming the American submarine USS *Pintado*, SS387, since her conning tower is on display in the garden, and earlier discussions with Jim Flanders indicated his desire to get both subs activated, as both are submarine memorials. We just couldn't do both by one QSO. Sunday was USS *Pintado* Day and we made over 300 contacts, with a final total of 682. We also worked several other submarine memorial special event stations. Worldwide, Jim, who coordinates the event, anticipated 55 submarine memorial stations on the air.

Operating and logging chores as well as installation and teardown were more or less passed around. During the three days the following KARS Hams all participated: David, AB5UE; Don, KM5SY; Bob, W5XW; Richard, KC5OEG; Dan, W5AYB; Ace K4KV; Hubert, KC5HRN; Mike, W6WGE; Gary, WD5FWP; Mike, KD51LM; Bill, KD5IOL; Chuck, KD5FDJ; and Sam, W5KRH. Ham visitors included: Robby, W5RCW; Cheri, WD5IZT; Greg, N5SQL; and Dale, AC5EQ. KARS "No Shows" missed a FUN time!

The Monday mail already had two "early bird" QSL's with #10 business-size SASE's waiting.

Our special thanks go to the Nimitz staff: Mr. Jesse Tarin, director (acting); Mrs. Helen McDonald; and custodians Ron McCormick and Karen McNese. Also to Brenda McDaniel (Richard's XYL), who baked us another one of her special cakes. Last year at Field Day it was frosted to look like a Ham transceiver; for this "Submarines on-the-Air" event she outdid herself with a cake in the shape of a surfaced submarine, complete with a stack of cookies for a conning tower, everything frosted in navy blue frosting! Thanks Brenda! KARS members not present at noon Sunday missed out again!

The wonderful one horse "866"

Bill Manson, KN6RH

I got my ticket in 1939 and enjoyed Amateur Radio as W9OUH and WØOUH until I was absorbed in the usual life tasks and responsibilities and Ham radio faded from my life in 1951. After retirement, I once again "got the urge" and resumed the hobby as KN6RH.

Obviously, things were far different in many respects than they had been upon my departure. I have heard some Hams decry the loss of the "good old" technology; much as some of us may be saddened by buses eliminating the bone chilling walks through the snow to school which, I have been told, worked wonders to strengthen our moral fiber.

One obsolete item, which I really do miss, but have not heard anyone else mourn, was the good old mercury vapor rectifier of which the 866 was the most common. For the pre-geriatric set, this was a hot filament vacuum diode containing a few globules of mercury which, besides radiating a beautiful bluish light, also served as a half wave high voltage rectifier. I never was too interested in the rectification capabilities but I really enjoyed the color. My first contact with the 866 was, however, not auspicious. After completing my first real "high voltage" power supply which used Hytron 866 Junior tubes, I flipped the switch only to witness a spectacular if brief display with the cathodes of the tubes acting as Fourth of July sparklers. Then suddenly all was dark. Money was not easy and I sensed that I was out two brand new tubes. The ensuing post mortem taught me to keep drills and filter choke windings far removed.

The 866 has well served its purpose and has justifiably largely vanished from the scene. But every now and then, I must confess, I see in my memory the blue glow illuminating the dots and dashes on the darkened baseboard of my Ham shack. Now if some of you new technology guys could only marry solid state technology with the "866" glow...

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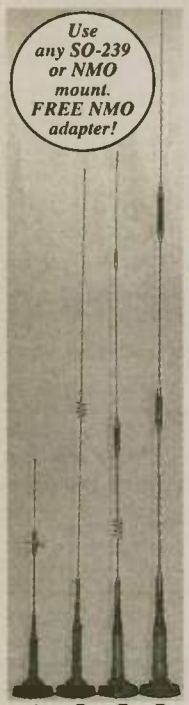

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Trunk/Hatchback *Lip* Mount

MFJ-345 Lip Mount is shown mounted vertically to a mini-van's angled hatchback lip. Note extra-wide mount with reinforcing tab at right -- safely secures heavy antennas. Swivel mount is adjusted so antenna is near vertical away from mini-van to clear luggage rack.

MFJ-345 **$34.95** add s/h

MFJ's *RuffRider*™ super heavy duty solid steel Trunk/Hatchback *Lip* Mount mounts to any lip on your vehicle.

Extra-wide *four* inch lip and large reinforcing tabs on each side safely distributes the load over your vehicle's lip.

Two large set screws on each end of the mounting lip locks your mount in place. A scratch-proof rubber guard protects your vehicle's finish.

Secures large VHF, UHF and medium size HF antennas even at highway speeds.

Mounts on lips at any angle. Two axis of rotation lets you position your antenna vertically, horizontally or at any desired angle. Serrated swivel joints locks securely in place with huge 3/8 inch set screw.

Has SO-239 base mount. Use adapter for NMO. Includes low loss coax with PL-259 connector, Allen wrenches and protection caps for SO-239 and locking screw, One year MFJ *No Matter What*™ limited warranty.

Mirror/Luggage *Pipe Clamp* Mount

MFJ-340 Pipe Clamp Mount is shown clamped solidly to vertical mirror support rod on a pickup truck. Antenna is slightly swiveled to the left and positioned about 30 degrees from vertical to clear cab of the pickup truck.

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MFJ's *RuffRider*™ Mirror/Luggage *Pipe Clamp* Mount mounts on support rod of mirror, luggage rack or spare tire carrier of your truck, van, RV or SUV. Mounts on any horizontal, vertical or angled rod or pipe up to 5/8 inches in diameter.

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Two axis of rotation lets you position your antenna to any desired angle. Serrated swivel joints locks securely in place with huge 3/8 inch set screw.

Convenient *Thumb and Finger* turn knob makes fold-over operation quick and easy. Locks in twelve positions.

Fold down your antenna at night when pulling into your garage and quickly put it back up to its operating position in the morning.

Has SO-239 base mount. Use adapter for NMO. Includes low loss coax with PL-259 connector, Allen wrenches and protection caps for SO-239 base mount and locking screw, MFJ's famous One year *No Matter What*™ limited warranty.

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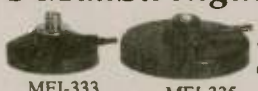

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MFJ-616 **$169.95**

"As I got older, my high frequency hearing loss was destroying my ham radio for me . . ."

-- Martin F. Jue, K5FLU
President and Founder
MFJ Enterprises, Inc.

I know I'm not the only ham who can't understand all the speech in a QSO caused by high frequency hearing loss. I developed a solution that I want to share with my fellow hams.

I almost gave up my ham radio hobby

I have been a passionate ham radio operator for over 40 years ever since I was a teenager. I loved every minute of it. Still do, but I almost had to give it up.

As I grew older (I'm 56 now) I found myself asking "*What did you say?*" so often it got downright embarrassing. I can hear pretty good most of the time. I just can't always understand what people are saying and my left ear is weaker than my right ear.

It got to where I was having trouble carrying on QSOs. I could hear, but I just couldn't quite make out all the words.

My hearing problem almost put a stop to my lifelong hobby.

There was no way I was going to give up ham radio . . .

Research showed me what to do

I searched the literature and spoke to hearing and speech experts.

According to their research on the intelligibility of speech in hearing English words:

1. The frequencies important for speech intelligibility are the consonant sounds from 500 to 4000 Hz. They contribute 83% of word intelligibility.

Frequencies from 500 to 1000 Hz contributes 35% of word intelligibility and 35% of sound energy.

Frequencies from 1000 to 4000 Hz contributes *48% of intelligibility* but has *only 4% of sound energy!*

2. In contrast, frequencies from 125 to 500 Hz contributes 55% of sound energy but only 4% to word intelligibility.

In other words, nearly half the speech intelligibility is contained in 1000 to 4000 Hz frequency range with only 4% of the speech sound energy.

On the other hand, the low frequencies 125 to 500 Hz have most of the speech energy but contribute very little to intelligibility.

How I improved my ability to hear and understand QSOs

The research showed me what to do.

First, drastically increase the speech energy above 500 Hz where 83% of intelligibility is concentrated.

Second, drastically reduce the speech energy below 500 Hz that contributes only 4% of intelligibility.

Amateur radio communications limit audio to about 300 to 2700 Hz.

I split the audio band into four overlapping octave ranges centered at 300, 600, 1200, 2400 Hz.

I could boost or cut each range by nearly 20 db to give me full control. This let me maximize speech intelligibility for most kinds of frequency loss.

My left ear is weaker than my right ear so I split the output audio into left and right channels with separate 2½ watt amplifiers. A balance control lets me equalize the perceived loudness to each ear. *Now both ears help in improving speech intelligibility!*

I couldn't believe my ears!

I built one and hooked it to my rig.

I boosted the high frequencies, cut the low frequencies, set the volume and adjusted the balanced control so I could hear each side equally loud.

I couldn't believe my ears! Speech that I could hear but barely understand before was now highly understandable. I got my ham radio back!

With this concept, you'll *understand* QSOs better and enjoy ragchewing and contesting more, even if you don't have high frequency hearing loss.

It helped me so much I wanted to share this with my fellow hams

I developed this into an accessory that any ham can use.

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The future of Amateur Radio?

Vic Black, AB6SO

Predictions for Amateur Radio's future range from ever-faster digital modes relayed by satellites to declarations that the hobby will be replaced by other activities, such as cellular phones and the Internet. Is either extreme correct? Are there any middle of the road alternatives?

Three trends are affecting all of our activities, whether job or hobby related. We are aging, we're overworked and time short and we're becoming more mobile. Few people can spare time to spend on hobbies anymore. This fairly recent social change has contributed to the aging of the amateur fraternity since it helps to be retired to participate fully in Amateur Radio, or any hobby. The urge to involve more youngsters is admirable. On the other hand, the population is living longer so there will be more retirees available to share life experiences through Amateur Radio. We shouldn't overlook senior citizens as a source of new recruits to the hobby. In order to accommodate these demographic trends, rigs and antennas will become smaller, cheaper, more efficient and easier to install and use. Mobile rigs will become more important in order for the average working amateur to participate during commute time in our increasingly mobile society.

Amateur radios tend to be more complex than most commercial radios, which are designed for untrained personnel to use for specific, dedicated tasks. Amateurs want to be able to react to changing propagation and interference so our rigs are designed with operator adjustable options and refinements, although we don't always use all available features.

Simple low cost, one-band VHF FM radios designed for ease of use are leading a trend toward simplification. Many future radios will be minimalist designs for use by beginners or by Hams in developing nations with low per capita income. VHF HT's will be complemented by small efficient one or two band basic HF rigs, or "travel radios." The popularity of QRP is partly the result of playing the radio limbo game. How low can you go?

Disposable entry level HT's

Who would have thought a few years ago that a recorder or camera would be considered disposable? Yet, greeting cards are now available with built in digital voice recorders and recyclable cameras sell for a few dollars. Toy "walkie-talkies" and one or two channel CB HT's, available for a few dollars, suggest that radios can be so simple, yet functional, that they, too, can be disposable. Serious Family Radio Service UHF radios now sell for as low as $30 per pair. Simple entry level or backup Amateur Radio HT's, configured to operate on a few simplex frequencies could be sold in the same price range.

Home brewers will choose from standardized RF modules. Pick from a matrix of RF front ends, VFOs, low pass filters, audio amplifiers, mixers and other modules, perhaps jumper configurable. All will be impedance matched and optimized so you can simply mix and match to create rigs for various bands and modes. Many modules will be made in silicon as ASICs (Application Specific ICs) or FPGAs (Field Programmable Gate Arrays).

Inexpensive printed circuit boards could be offset printed on water proofed Bristol board or plastic with conductive ink using strip line and surface mount techniques. RF modules will attach using conductive epoxy or metallic tape. A step in this direction would consist of standardized daughter board modules designed to plug into a standard back plane bus board. A more elegant solution would be modules that slide together much like Lego toy pieces.

If circuit board substrates were die-cut to the proper size and shape, they could be cleverly folded to create their own enclosures complete with front panel graphics. Membrane switch keys could be stuck on for CW. These modules will use low voltage devices. ICs have gone from 12 volts, to 5 volts, to 3 volts and now below 1 volt. This allows use of smaller, long life batteries. Some can even be operated by large capacitors, which can be recharged instantly.

Etched Yagi and log-periodic antennas could be made for 1.2 and 2.4 GHz using printed circuit techniques to simplify construction, standardize results and lower costs. For portable use, such as public service support, disposable radios could be snapped in place on the antenna board, thereby eliminating transmission lines and connectors. Low power microwave transceivers could be built to look and work like today's hand held point and talk "bull horn" public address systems.

Future radio design

This may seem too radical since it wouldn't be efficient enough to work. Or, would it? Thirty-five years ago, I designed a 2 GHz cavity tuned oscillator. Standard technique was to carefully machine a block of copper, brass or aluminum and then silver plate it for best skin effect conductivity. I made mine from plastic, thinking it could be injection-molded and vacuum plated for production. I was told it wouldn't work. My model received a coating of electroless nickel, followed by copper at the printed circuit shop. The plating shop then applied a thin electroplated silver coating. After that, it was treated with greater respect since it wasn't visually identifiable as a chunk of plastic. And, yes, it worked fine — so long as it was used in a stable temperature environment.

Top-of-the-line radios will be generic in design with the specific operating details supplied by easily upgradeable firmware. With dropping prices, personal computers are becoming standard commodities. PIC chips, Application Specific ICs (ASICs) and CPUs have replaced general-purpose computers in many applications. Soon we may hit a performance plateau. You can tell that's happening when newer computer models are sold more for their cosmetic and styling appeal than for their technical merits.

High-end HF rigs will become dedicated computer-based radios with built-in digital and video modes, as well as generic logging software. These controllers will incorporate the computer directly in the radio for digitally processing radio signals. Software-based radios will be upgraded and customized by changing firmware or software rather than the hardware. Standalone Amateur Radio-specific computer/radios will feature keyboards and flat panel displays instead of traditional front panels. Software based radios will lend themselves to use as remote base rigs accessible by Internet or telephone lines to accommodate club members who face antenna restrictions at home.

Batteries are poised for major advances. Disposable radios will use improved photo voltaic cells for the low voltage circuitry. Organic photo voltaic cells may be "grown" and then stabilized for use. Non toxic fuel cells will be used for high power AF and RF circuitry. Environmentally friendly primary fuel cells, configured to fit the radios, will eliminate rechargeable batteries, charge controllers, chargers and related toxic waste recycling problems. Charging will be as simple as refilling a cigarette lighter.

Inexpensive (cheap) radios

Really cheap radios for short-range uses will allow carrying spare radios rather than spare batteries. Cellular and PCS phones are nearly there now since their serviceable life is measured in months. New models are now introduced about every six months. Even these phones see up to 30% design changes as they evolve in only six months. Cellular phones are now the largest volume consumer products in the world with a 40% per annum growth rate. They are also the largest users of electronic components. Each succeeding generation is simpler to build than the last. Low power drain and long battery life will ultimately render the entire unit recyclable.

Amateur Radio is embarking on major advances in digital modes. PSK-31 is a hint of things to come in HF communications and reminiscent of the acceptance of single side band fifty years earlier. Recent PSK software allows up to sixty simultaneous channels of digitized communications in the spectrum now occupied by one SSB signal. This doesn't require new radios or special authorization, but only time to mature. There's plenty of room for entrepreneurs to develop simple, specialized, self-contained, one-mode "black box" radios dedicated to this technology. PSK waited for the infrastructure to catch up and is now even being used with homebrew QRP kit rigs in conjunction with palm or laptop computers.

Manufacturers are combining technologies to produce new hybrid consumer products. Computer-like devices will combine true cellular telephone digital voice technology with paging and the ability to fully access the Internet along with performing personal organizer work. This is not the same as the current crop

of palmtop computers, which have limited Internet access and no telephone access. These devices will access the Internet directly by satellite similar to the way Amateur Radio HT's access satellites. In this respect, Hams are still ahead of consumers in the use of cutting edge technology. The cost? They'll probably be marketed as "free" — much like cell phones are currently sold, or leased, with service activation.

Similar devices with paging capabilities will replace amateur HT's when digital repeater controllers and protocols are developed for amateur use. Robotics will allow configuring custom designs on the same production line so manufacturers can economically produce niche products in small quantities. For instance, manufacturing breakthroughs in flat panel displays will allow portable amateur TV transmitters and receivers to become commonplace at low cost.

New antenna designs

Personal communication devices will search for available frequencies to avoid interference while maintaining contact with the intended party. This will require development of automatically tuned antennas or broadband gain antennas. Although non-resonant, gain antennas sounds like a contradiction in terms, we currently use such designs as long wires, double discones and log periodic dipole arrays. Bow-tie dipoles are resonant over a broad frequency range and exhibit gain when backed by a plane reflector. Parabolic dishes and corner reflectors are other non-resonant gain antennas, although driven elements are usually resonant.

Antennas are the most neglected part of the Amateur Radio system. Amateurs strive for maximum forward gain. Future designs may emphasize side and front-to-back rejection more than absolute forward gain. On VHF/UHF, we may use multipath and phase differences to increase the number of bits of digital information carried on each frequency. This will use more than one transmitting antenna to allow a repeater to send information for one conversation in one direction and another conversation in another direction on the same frequency only to arrive later at different destinations received on different antennas, with different phasing and different polarization.

Another form of smart antenna would detect arriving signals from several directions, apply digital signal processing to switch directional antennas covering 120 degree azimuth sectors and combine multipath signals to boost signal strength in order to enhance spectral capacity through frequency reuse. This form of spectral management will depend on working with multipath rather than fighting multipath as we do now.

Repeaters in space

Did you ever wonder how astronauts communicate with the command center in Houston even though they are on opposite sides of the Earth? Their signals make chordal hops from satellite to satellite until they reach one that is above the ground station. Amateur satellites have not been linked, but this is possible. FM repeater systems are joined to form super-linked systems using microwaves and the Internet for control while satellites have digital store and forward capability. When interface problems are solved, the local amateur with a handie-talkie or mobile rig will control linked local repeaters, the Internet and satellites as one giant worldwide repeater system.

Helium balloons, which can stay aloft for months at a time will be capable of carrying heavy packages to great heights, up to twice the height of current models. Smaller versions will ultimately carry amateur repeaters into the upper reaches of the atmosphere at very low cost. The moon, like Antarctica, is out of bounds for commercial uses. However, an amateur repeater could probably be accommodated on the moon once power supplies progress to the point that they are dependable under lunar conditions. Reflected EME is very difficult for most amateurs, but the effective path would be only half as long with a repeater and appropriate antennas in place.

Will digital electronics signal the end of CW and conventional phone communications? Probably not. In fact, newer forms of CW such as Very High Speed CW, extremely slow CW and Dual Frequency CW are only viable using advanced digital receiving techniques. Nuclear submarines, jet aircraft and turbocharged automobiles haven't diminished the ardor with which wind surfers, hang glider pilots, bicyclists and equestrians pursue their pleasures.

The second century of Amateur Radio promises many exciting wonders. There will be many challenges, but every challenge presents an opportunity. Amateur Radio's future is bright for imaginative amateurs who exhibit the interest. Skill, technique and home built hardware will continue to be important aspects, even though the entire system architecture may be beyond the scope of any one individual. Ideally, we won't lose the hands-on aspects of Amateur Radio that make the hobby so much fun. The limits are bounded only by our own imaginations. The hobby will not only survive, but will thrive as long as amateurs experience the thrill and magic of communicating without wires.

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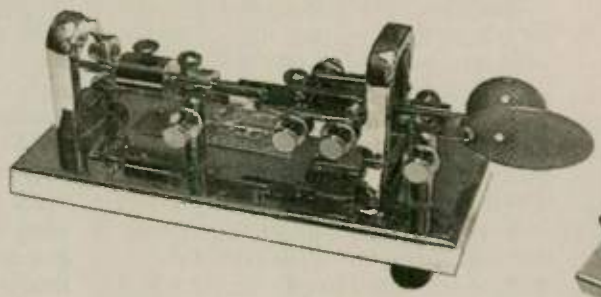
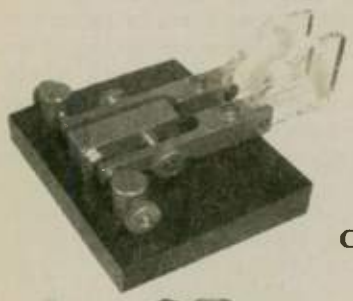
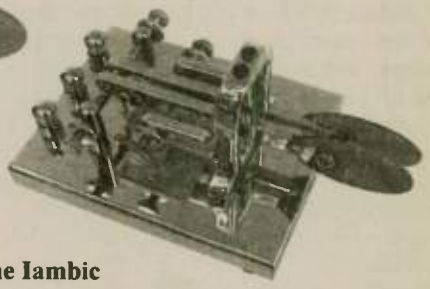


The Original 'BUG'

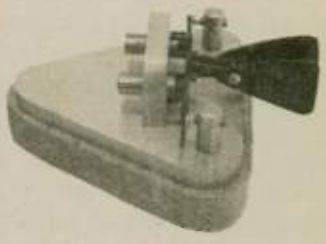


Code Warrior Key



The Iambic

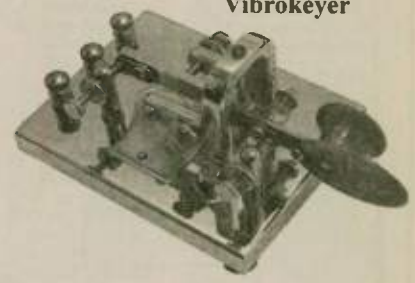
Square Brass Racer



Brass Racer Iambic

KEYS TO THE WORLD

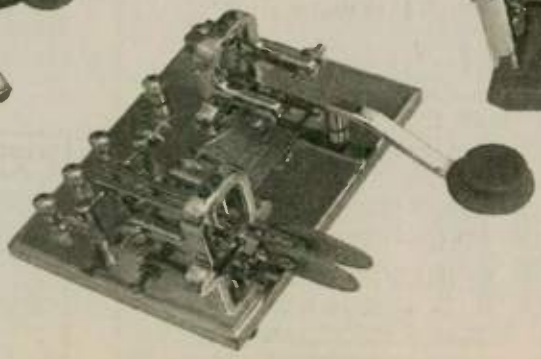
Square Racer



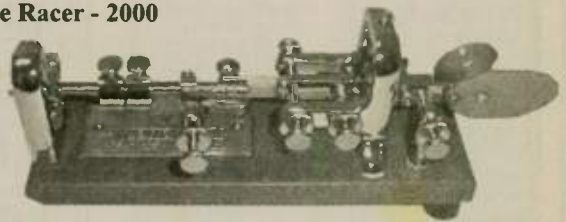
Vibrokeyer

Straight Key

Double Keys



Blue Racer - 2000



How I got started

Bob Moren, K4CX

The time was the early thirties. Things were bad — they were about to get worse. On the sixtieth day after I had managed to get on the air (40 Meters) with a one-tube regenerative receiver plus a single-tube TNT oscillator transmitter tied to a zepp antenna, I was collared by the R.I. (Radio Inspector in those days). It seems that in order to acquire the necessary license I first had to learn how to handle CW. I had, therefore, lifted a nice set of call letters from the Silent Keys column in *QST* and was progressing nicely until that knock at the door.

The R.I. appeared at a time of day when I was in school. My mother, an obliging soul, who knew only that her son had an attic bedroom full of mysterious radio stuff, served coffee to the R.I. until I appeared on the scene. I had seen his official car parked in front of the house and was more or less prepared to face the music. He seemed surprised to see me. No wonder! I was in knee pants. I was eleven at the time.

He first inspected my rig, noting my homebrew cootie key (sideswiper to the uninitiated) which was a short length of hack saw blade banged back and forth between two nails driven into the table top. After admiring the cloth-tape paddle on my cootie key, he advised me that he was empowered by the Federal Radio Commission (that's what it was back then) to confiscate my equipment! The thought that my government would filch my gear, which included a receiver with a gorgeous blue-glass Arcturus type 224 vacuum tube, was, I thought, proof that bureaucracies are inherently heartless. Before I could voice that opinion he declared that the U.S. Government would not find it profitable or even useful to cart my equipment away. He did suggest, rather forcefully, that I waste no time taking the necessary tests to get my own call letters rather than those of a dead man!

Since I had already whacked away at that cootie key long enough to get my code speed up to about 15 wpm, I had my license in less than two months. My most recent two calls are W4INL and currently K4CX.

I have now been on the air almost 70 years, on SSB since 1948. For a short time I also operated RTTY. Until 1993, aside from an old Model 19 teletype machine, all of my gear (except for a few happy years using a National HRO, Model M receiver), was homebrew — all designed from scratch! No kits! A move into smaller quarters in 1993 forced me to unload racks of equipment and a ton of goodies new Hams will never see and probably know nothing about.

My only claim to fame is the first two-way SSB amateur trans-Pacific contact with VK7DH in 1950. That QSO was not very exciting since neither VK7DH nor I knew it was a first until so advised a few months later. The real excitement was a CW contact with VU7FY when I was running about 30 watts to a zepp antenna and using a three-tube blooper receiver. I was fifteen. I was hooked. I still am, but the current operating procedures rarely permit meaningful conversations with that interesting guy or gal on the other side of the world. The passage of years have also produced a marked lack of civility on the Ham bands, but I suppose that is simply a reflection of contemporary society.

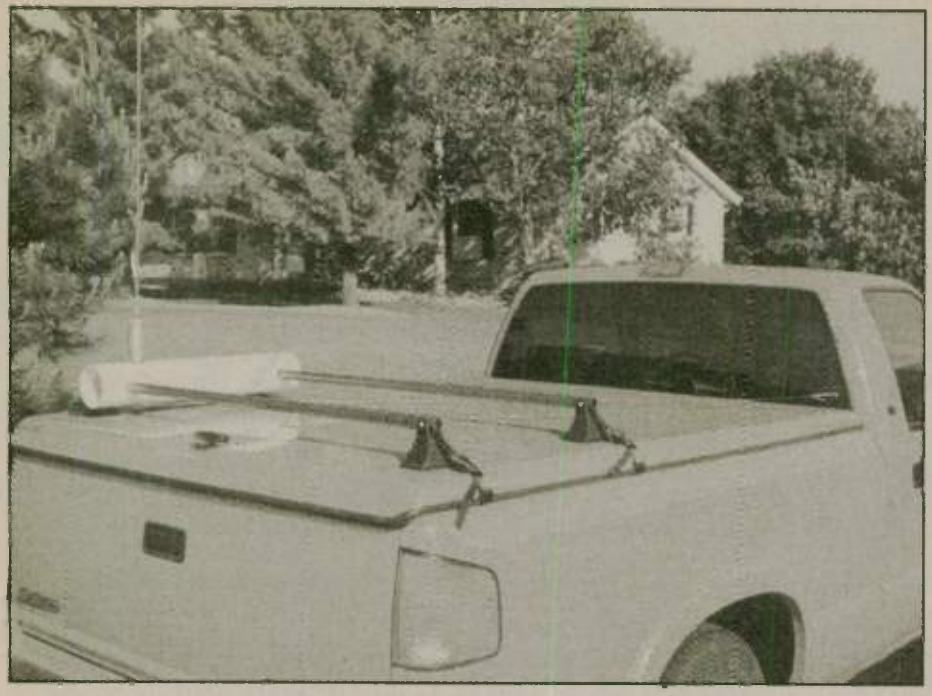
I've managed about 340 countries lifetime total on SSB but started over when restricted to a vertical antenna. So far the vertical has permitted contacts with 242 countries over the past several years, but I rather doubt I'll make 300.

I'm now old enough to have worked may countries that no longer exist — such places a Goa, (Portuguese India), and many others. There is not space here to list the notable men and women I have met via Ham radio over the years but a list of such people and their accomplishemts would be grist for another literary mill.

ARRL publishes incorrect scores

ARRL Contest Branch Manager Dan Henderson, N1ND, says contest-scoring software glitches led to the publication of incorrect scores for CW participants in the 2000 ARRL International DX Contest. The erroneous scores, which will appear in the October issue of *QST*, already had been posted to the ARRL Members' Only Web site. They were removed 31 August.

Henderson says that once recalculated results are available, the *QST* article reporting them will be re-posted on the ARRL Members Only Web site. There are no plans to reprint the corrected results in *QST* magazine. — *ARRL, Newsline*



Left: The installation gives the appearance of an expensive HF mobile antenna mounting system — but it's cheap!

Below: Close-up view of connections made at the back of the cab.

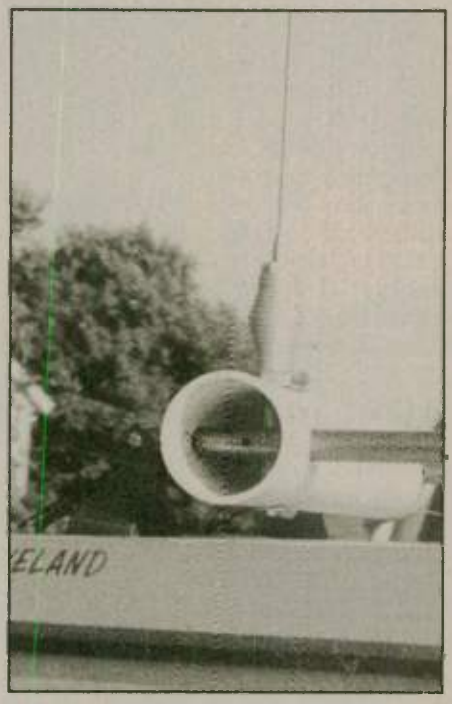
Cheap HF mobile Antenna

Mike Greenfield/N9JIY

Here are photos of a super-simple, low-cost HF mobile antenna setup that works great! You can't tell by looking, but it's just a short random wire fed against a counterpoise. Your car/truck/van might need a setup different from what's shown here, but whatever you drive the IDEA is worth a try. It seems ideal for plastic-bodied cars.

Far-end of the "random wire" is the tip of a 102 inch RadioShack whip. It's attached to PVC pipe, and insulated from the truck body. The mount is a $30 roof rack. This puts the antenna tip up 13 feet, and means no holes drilled in my truck! From the whip bottom, my "random wire" continues diagonally across the bed to the back window, where it attaches with a suction cup and spring. The bed cover is plastic, so the wire doesn't run near any metal. Total antenna length is 16 feet! There are no LC coils, caps or taps in this assembly.

The counterpoise is a single bare 17ga aluminum wire attached to the truck frame. The wire begins behind the driver-side front wheel. It runs around the back of the truck, and ends under the passenger-side door. It's attached to the frame with short pieces of wire. I was careful to avoid suspension parts, fuel and brake lines.



Constucted of PVC pipe, it's durable and should last the life of the truck.

My rig (TenTec 555 Scout) is turned down to draw 7 key-down amps from the cigar lighter outlet. It feeds about 35 watts to a MFJ 945C tuner, which has lugs for a random wire and ground. Rig and tuner sit in the passenger seat. Two short jumpers slip through the door and clip to antenna and counterpoise near-ends. Again, no holes drilled.

All bandswitching and tuning is done at the rig and tuner. I get easy 1:1 SWRs on 80M through 15M. My setup doesn't tune 160M, 12M, or 10M. Maybe a little inductance or capacitance at the bottom of the whip would help. But 80M through 15M on one antenna is good enough for me!

I run CW. Transmitted signal reports range from "down quite a bit" on 80M, to "can't believe you're just a 35 watt mobile" on higher bands. RSTs on 40M are usually 569 or 579. Calling CQ/M often gets a quick response. Maybe mobile is to CW what a sultry female voice is to SSB.

So, give it a try. A setup like this MUCH reduces the cost/work/fuss of going mobile. I'll look for you around 7.060 MHz mornings and eves.

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Choose a Cable Assembly

3D5M Standard low loss cable assembly. Gold plated SO-239/PL-259 connectors. 17" length

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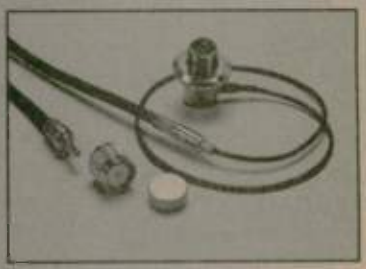

CK-3M5 Deluxe cable assembly 17" length including 17" of RG-188A/U for easy entry from a lip mount without causing water leak, wind noise or coax damage

CK-3M Deluxe cable assembly same as CK-3M5, but 9'9" total length

Create an antenna mounting system just for your vehicle!

Attach the chosen mount to the trunk, door, hood, hatch or rear door of your car, van or SUV. Any lip 1/4" or less in thickness will do. Tighten the setscrews and adjust the mount to vertical. **Installation takes only a few minutes.**

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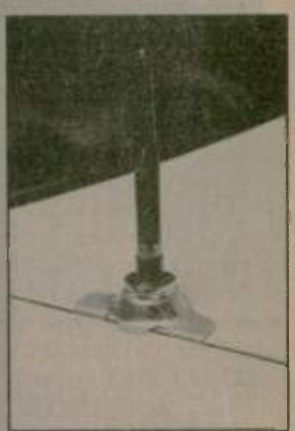

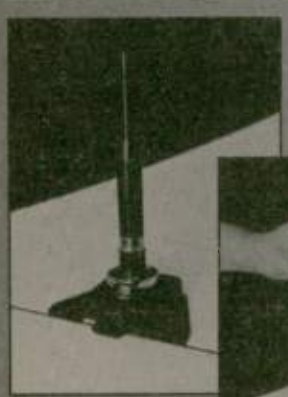

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Length: 8.75" • Conn: Male SMA • Max Pwr: 10W

* NEW **MH-510** • Tri-band 52/146/446MHz HT Antenna w/SMA Conn
Gain: 0/0/ 3.2dBi • Length: 20.75' • Conn: Male SMA • Max Pwr: 10W

SB-15 • Tri-band 52/146/446MHz w/fold-over
Gain & Wave: 52MHz 0dBi 1/4 wave • 146MHz 4.5 dBi 6/8 wave • 446MHz 7.2dBi 5/8 wave x 3 • Length: 58" • Conn: PL-259 • Max Pwr: 120W

NEW BLACK COLOR

SBB-7 SBB-7NMO • Dual-band 146/446MHz w/fold-over
Gain & Wave: 146MHz 4.5dBi 6/8 wave • 446MHz 7.2dBi 5/8 wave x 3 • Length: 58" • Conn: SBB-7 PL-259/SBB-7NMO NMO • Max Pwr: 70W

NEW BLACK COLOR

SBB-5 SBB-5NMO • Dual-band 146/446MHz w/fold-over
Gain & Wave: 146MHz 2.5dBi1/2 wave • 446MHz 5.5dBi 5/8 wave x 2 • Length: 39" • Conn: SBB-5 PL-259/SBB-5NMO NMO • Max Pwr: 120W

THEFT **Z750** • Dual-band 146/446MHz w/fold-over • Includes COMET exclusive theft-resistant lock!
Gain & Wave: 146MHz 2.15dBi 1/2 wave • 446MHz 5.5dBi 5/8 wave x 2 • Length: 39" • Conn: Gold-plated PL-259 • Max Pwr: 200W

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146MHz 6/8 wave 4.5dBi • 446MHz 5/8 wave x 3 7.2dBi • Length: 62" • Conn: Gold-plated PL-259 • Max Pwr: 150W

B-20 B-20NMO • Dual-band 146/446MHz w/fold-over
Gain & Wave: 146MHz 2.15dBi 1/2 wave • 446MHz 5.0dBi 5/8 wave x 2 • Length: 30" •
Conn: B-20 PL-259/B-20NMO NMO • Max Pwr: 50W

B-10 B-10NMO • Dual-band 146/446MHz cellular look-a-like •
Gain & Wave: 146MHz 0dBi 1/4 wave • 446MHz 2.15dBi 1/2 wave • Length: 12" •
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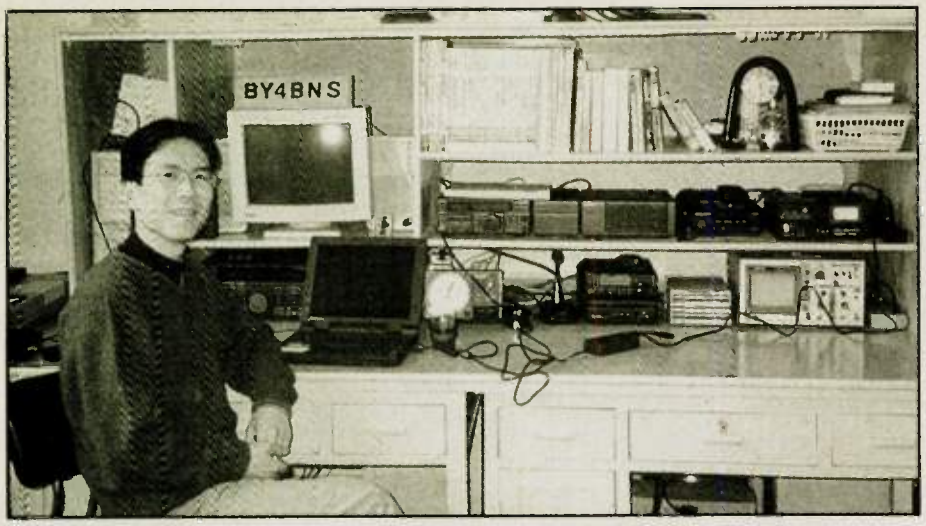


Bony Dai, BA4EE, one of the busiest operators at the BY4BNS club station.

The road to BY4

Dennis Ward, KT8X/BY4BNS

In August/September 1999 I was assigned to a project at work which uses a manufacturing plant near Shanghai, China. At that time, I was informed that a trip to the plant might be possible some time after the first of the year. That same day when I arrived at home, I immediately connected to the web page of OH2MCN. Veikko's web page provides a comprehensive listing of instructions to obtain operating permission in most countries. To operate in BY, I needed to provide an application letter, copy of my passport, copy of my U.S. license, passport photo and $5.

On 04 January my license arrived in the mail! Enclosed with the license, was a letter instructing me to contact Mr. Hu Song Qing, BA4HU, to operate the BY4AA club station while in Shanghai. Since I was on my way to Japan later in the week, I decided to telephone Mr. Song Qing while I was there. I had to wait another 10 days before I had an opportunity to call BY4AA and learned that I needed someone who spoke Chinese to help me. I then called my co-worker, Brian Yang, in Shanghai and explained what I was trying to do. Brian attempted several telephone calls to BY4AA before success. Unfortunately, the club was unaware that I had permission to operate, and explained to Brian that I needed permission from Beijing to operate.

After returning home from Japan, the trip to Shanghai was forming and it appeared to coincide with ARRL DX SSB. I decided to fax a letter to BY4AA explaining my desires to operate the contest, along with a copy of my letter from Beijing. I was fortunate to have my co-worker, Sunshine Chou, translate the letter into Chinese for me.

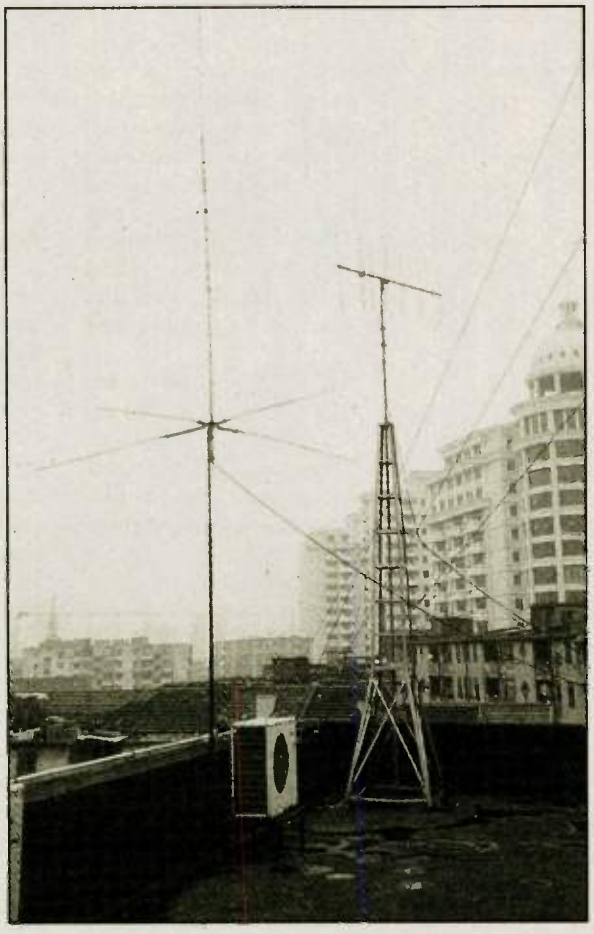
With two weeks left before flying to China, I began the preparatory work for the contest. I asked Brian if he could find out about a computer, with English characters, what equipment was available, bands to be QRV, etc. Brian was able to confirm that there was a PC at BY4AA, but the club suggested I bring my own if I had one. This proved to be very important later.

I decided to bring along my Heil Proset and PTT Foot switch since they wouldn't be used while I was gone. I then realized I didn't know anything about the equipment in Shanghai and how I would interface the Proset and foot switch. Fortunately, Dave, K8CC, came to the rescue. The night before leaving, I drove to Dave's house and he loaned me an interface cable for Kenwood, Yaesu, and Icom.

I arrived in Shanghai late on 01 March. Thursday proved to be such a hectic day, my hosts at the plant only remembered to telephone BA4HU/BY4AA on the way back to the hotel! With the contest only 24 hours away, we arrived at work the next morning and called BA4HU. Mr. Song Qing gave us directions to BY4AA and we agreed to meet him at 8 p.m. that evening. I had many questions, but he recommended we discuss the technical issues in person at the club station. We arrived back at the hotel, changed and hopped in a cab for the journey across town. Three of my co-workers were kind enough to accompany me on the trip and two of them helped with language translation.

When we arrived at the address I couldn't read the street numbers, but immediately recognized a tribander on a roof tower. Mr. Song Qing was there to greet us at the front gate. Mr. Song Qing was a very gracious host and showed us several rooms used to display QSL's and provide meeting venues. We finally arrived at the shack. Just like the BY4AA QSL card we found on the Internet, there was a long table filled with a variety of equipment. A banner on the wall proudly display's BY4AA's SSTV Contest Championship from 1999.

The main HF operating position consisted of a Yaesu FT-870. The rig looked like it had been with the club for some time now. There were three HF amplifiers — a Kenwood TL-922, Yaesu FL-1000, and another brand I couldn't identify. As I began to ask questions about



An HF ground plane is not the most desirable antenna to use as rare DX but, when it's all you have, it works.

the station set up, I was disappointed to learn that 10 and 20 Meters experienced VSWR problems, and recently there were problems with the amplifiers. Mr. Song Qing suggested an alternate club station which had newer radios and an operational tribander located on the other side of Shanghai. He asked us to wait while he telephoned the other club to see if I could go over there and operate. After he hung up the telephone, the good news — I could go over to the other club that night and make operating arrangements.

After another 20-minute taxi ride, we seemed to be in the area of the club and the driver pointed to the road where it should be located. We paid the driver and started walking down the street. As before, my colleagues were looking for street numbers and I was looking for antennas. Just as I recognized the 7-element tribander on the roof, Mr. Bony Dai, BA4EE, approached me and introduced himself. He knew I was a Ham because I was the only person on the street looking upward and not forward! Bony then took us inside and brought us up to the BY4BNS club station. I was delighted to find a Kenwood TS-950, FT-100 and new rotator control at the operating position. Bony explained that BY4BNS was QRV on 10, 15, 20, and 40 with the tribander (quad bander if you include the 40-meter rotatable dipole option) and 10-80 with a small ground plane also located on the roof. There wasn't an amplifier, but I was thrilled with the station.

The next morning I was up at 4:30 a.m. still suffering from jet lag, and couldn't get to BY4BNS fast enough. I decided to double check my laptop and ran NA to verify that I didn't need to reinstall, or have other computer problems. I then did a check of the call sign and discovered that the stations at home would need to modify their data files because I was recognized as a U.S. station (this was evident during the contest). After breakfast and a 15-minute taxi ride, I met Bony who was already waiting for me. We went up to the club and I unpacked my laptop, Proset, footswitch, tape recorder and interface cables. I was ready to go by 7:30 a.m. We scanned the bands and heard zero activity on 10 and I wasn't sure if the band was open to North America or not. We scanned 15 and found some activity. We decided to begin the contest there. After calling CQ and only running a 60 per hour rate, I figured that I wasn't getting spotted on the DX cluster yet and/or I didn't have such a great signal into the U.S. so I did some search and pounce. K9NS and N6RO both asked me to QSY to 10 Meters when I worked them. I wrote down their frequencies, and finally QSY'd a short time later. Ten meters now had tons of activity, but for whatever reason I just couldn't run. As I called stations, they were caught off guard by the long call sign, and many were not sure what country I was in. I had a VE6 who refused to work me and a W4 who insisted I was signing my call incorrectly.

Dennis Ward, K8TX, enjoys some operating time as rare DX.

As 10 began to close, I went to 15 and finally managed a decent run. I maximized the last 10 on the rate display to 225 at 0256Z. It was a lot of fun working my friends' back home in Michigan and Ohio. Conditions began to dry up around 0430Z and my run had dwindled to 60 per hour again. I scanned the band, but I had worked every station that could hear me. I QSY'd to 20, and only heard the biggest East Coast stations. They were running S7 or so, and I assumed listening for Europe as no one heard my call. A little after 0500Z, W3LPL did manage to hear me, but no one else yet.

Even though BY4BNS is in downtown Shanghai, with numerous tall buildings, the path to North America is a clean shot, with the Shanghai TV Tower and Hilton High Rise in the distance. The 10-80 ground plane is a compromise antenna for the low bands, and mounted approximately eight feet above the roof. We chatted about future antenna plans, and amateur Radio in Shanghai.

Around 0600Z it was time to check conditions. The East Coast signals had improved, and a few others were in there as well. I stayed on 20 until about 0930Z and checked out 40. I was fortunate enough to work a few stations and pick up some multipliers, but the QSO's were difficult for the U.S. stations. The farthest station I heard, and luckily worked, was KØDU in Colorado. I took a few passes on 80 in hopes I could hear something. K9NS had requested a sked at 1200Z. Unfortunately, I couldn't hear any U.S. stations on 80. It was getting late, and I was still suffering from jet lag, so I called it a day. I made arrangements to meet Bony at 6 a.m. for the 10-meter opening.

When I returned to the hotel I couldn't find any of my friends, so I left phone messages with my plans. When I awoke early in the morning, they had left me notes that we were leaving at 7 a.m. This didn't fit into my plans at all! I decided I would still go sight seeing. I had a great time operating, but also wanted to see the countryside. How often does one get to visit China from Michigan? I contacted Bony at 6:30 a.m. with the disappointing news. I had hoped to end the contest, but learned Bony would not be available Monday morning, as he had to leave town. So all of a sudden, my ARRL DX SSB contest effort from BY had ended.

Bony Dai has extended an open invitation for any Ham to come and visit BY4BNS. If there's enough advance notice a license can be obtained and the station is available for operation. Bony can be contacted via e-mail at: ba4ee@online.sh.cn.

The upcoming week was a busy one, and many late nights prevented a meeting with Bony in person again. I did send my gracious host an e-mail of thanks.

Awards

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 W-100-N 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.

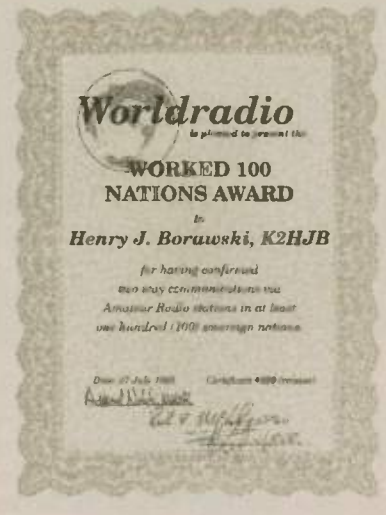
1. W-100-N virtually eliminates the need to work geographic areas heard only during DXpeditions. Almost all national entities have amateur stations consistently on the air.

2. W-100-N, 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. W-100-N 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 W-100-N.

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:

W-100-N 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 W-100-N, a certificate will be issued and the issuance of the award will be noted in a future issue of *Worldradio*.

100 Years of Radio

The Tri-State ARA and the Museum of Radio & Technology in Huntington, WV will operate special event station WV8MRT, from 1700UTC 04 Nov. to 1700UTC 05 Nov. This event highlights the museum's celebration "100 Years of Radio", marking a full century since Marconi invented the wireless. Main frequencies will be 7.240, 14.240, 21.340 and 28.340 MHz. For certificate send QSL and 9x12 SASE to Tri-State ARA, P.O. Box 4120, Huntington, WV 25729.

This space available!

Is your club or group planning on operating a special event station? ***Worldradio*** can help you spread the word about your upcoming event.

You've seen the listings, so why not take advantage of the free service? All we need is the details about your special event. We need to know which club or group is operating, the call sign being used, the frequencies and the date and times your station will be on the air.

It also helps if you can let us know what makes your event a truly "special" event. What is the purpose of the event?

That's it! That's all we need, and don't worry if you are a terrible writer. Our crack staff will make sure your notice gets to our readers, and you can be assured that there will be lots of activity for your operators. We will even list it on our web page at www.wr6wr.com! And it's free!

Send us your information, and make your operators break a sweat with all the contact activity.

Send your information to: Worldradio, 2120 28th St. Sacramento, CA. 95818 — Attn: Special Events.

One simple rule — we have to have your information by the 1st of the month two months before your event. In other words, if you are having a special event that takes place in February, we need the information by 01 December.

Every year, during the hottest portion of the summer, the California State Fair takes place at the Cal-Expo fairgounds in Sacramento. And every year, the River City ARCS gathers operators and equipment to demonstrate Amateur Radio to the masses. This year was no exception — except for one. The River City ARCS joined forces with the Sierra Foothills Amateur Radio Club to put on a bigger event! Did you work W6F on 30 August? Well, here it is - in a tent adjacent to the food court (you can get anything on a stick!), and it was a very nice day. Temperatures were in the mid-80s (a cold wave this time year in Sacramento. They'll be at it again next year!

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

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P.O. Box 189490
Sacramento, CA 95818

Silent Keys

Henry R. Kuhn, W8ERG

Henry R. Kuhn, W8ERG, of Cincinnati, Ohio, died 29 June. As proprietor of Kuhn Electronics during the 1950s and 1960s, he designed, manufactured and marketed communication and audio products. Among his products were auto radio converters covering police, Amateur Radio and aircraft frequencies. Kuhn was a member of the Antique Wireless Association and active for more than three decades in Army MARS. — *W8RGB, ARRL Letter*

Pero Simundza, 9A4SP/4W6SP

Pero was one of the three UNHCR (United Nations High Commissioner for Refugees) workers who were murdered in Atambua, West Timor during a militia assault on 6 September. He had been working for UNHCR since 1992. He was based in Metkovic (Croatia) during the war in Bosnia and Herzegovina and later in Mostar (Bosnia and Herzegovina), from where he operated as T98P. Before joining UNHCR in West Timor earlier this year, Pero spent a few months in Albania (ZA/9A4SP) helping UNHCR operations during the Kosovo crisis. Pero was one of the first Amateur Radio operators from East Timor; he became active on 21 April and logged some 5,000 QSOs as 4W6SP. — *425 DX News*

Roderick Sawyer, K9OEQ

"Rod" Sawyer, K9OEQ, died 10 January 2000, after a long illness. He was born in Elkhart, Ind. and was employed as an electrical and mechanical engineer in the design of special automated machinery.

Rod was a member of the Jackson County Amateur Radio Club, St. Johns Episcopal Church, Ripley, and was a U.S. Navy veteran having served as a naval aviator throughout World War II.

He graduated from high school in 1942 but had started taking flying lessons in 1939 and soloed three months later, thus being the youngest pilot in the United States at the age of 16. This led to a direct commision as an Ensign in the U.S. Navy upon graduation from high school. He graduated with a degree in Electrical Engineering and did graduate work at Indiana University and Notre Dame. He holds seven U.S. Patents, two Canadian Patents and has professional certification in Canada and the U.S. — *N8UXE*

Warner Ramsey, W6KMC

Warner Ramsey, W6KMC died 11 July 2000. He had been an Advanced Class amateur since 1928. Mr. Ramsey spent WWII as a Marine Electrician aboard various tankers, and recently retired from the Los Angeles Department of Water and Power as General Superintendent of Plant and System Transmission. — *W6UBM*

Ted M. Marks, W2FG

DXer Ted Marks, W2FG, of Kendall Park, New Jersey, died 13 September. Marks served as the first chairman of the ARRL DX Advisory Committee. He held DXCC for phone, CW, and RTTY (326 entities on RTTY alone) and was on the DXCC Honor Roll with a mixed total of 360 entities. Marks also had served as an ARRL Hudson Division assistant director and as an ARRL-VEC volunteer examiner. He was past president of the New Jersey DX Association. — *KB2EAR, The Hudson Loop, ARRL Letter*

Letters to the Editor

Rules & Regs

The smug tone of the August 2000 "Rules & Regs" does not reflect the best in Amateur Radio journalistic practice. Mr. Splitt begins his diatribe by sounding like the "good 'ol boy" Ham radio operator sitting at his rig and lamenting conditions on the HF bands. By the end of his "yarn" he has despoiled and belittled the work of honest, concerned and well-intentioned Hams.

The FISTS organization has a "no comment" policy and so has no place in the article. This is chaff in the wind to further confuse the discussion with spurious references to this code-centered association.

Mr. Splitt's ad hominem attacks on the petitioners shows an ungentlemanly attitude on his part to his fellow Amateur Radio operators. Whatever happened to the concept of the "Amateur Radio Fraternity?"

One tactic in argumentation attempts to reduce the opposition to a "less-than-human-level" of existence, e.g., the "Worm-Ad-Din", "Extra Fists" and "Code Guys" appellations. By not extending the common courtesy of assigning the petitioners their proper names he attempts to deny the validity of their petition. If they are not valid persons, their objections and suggestions are therefore not valid and not worthy of further attention.

Where does Mr. Splitt credit the petitioners with the extensive effort expended by admittedly legal laypersons to produce the comprehensive and well-researched document they presented to the FCC? It's just this negative, self-satisfied, "we know what's best for you" attitude on the part of the Amateur Radio press that helps make the rest of us ever more reticent to express our views to a larger audience in general, and government agencies in particular.

Philip Lazar, K9PL

(Ed. You were not the only one sharing this view of the August 2000 Rules & Regs column. Mr. Alan Wormser also expressed his concerns over the negative commentary and overall tone of the column by Mr. Splitt.

While it is my job to make sure a column or story is essentially correct in style, subject and proper grammar, it is not my position to change comments that a columnist wants to make. I cannot justify saying to Mr. Splitt, "This is not fair, not correct and makes a mockery of Amateur Radio, and you really can't say that." I can suggest he change it or modify his comments, but I can't change it myself. I can control some comments to a certain extent, but to do so takes a very big chance on denying someone the right to express their opinion, and very possibly violates the right of free speech as guaranteed by the U.S. Constitution. Can you imagine the fallout of an Editor at a major newspaper or magazine looking at an article or column and deciding to change it because he or she doesn't agree with the content?

I agree with Mr. Lazar and Mr. Wormser that certain comments may have been objectionable, but they were the comments of the columnist and not necessarily those of this publication. The comments were forwarded to Mr. Splitt. Whether he chooses to comment on the objections is up to him.)

KV4FZ dilemma

I have frequently read articles in Amateur Radio magazines regarding Herb Schoenbohm, KV4FZ and the FCC's ongoing actions against him. I do not know Herb personally, nor has he has never solicited any assistance from me. Its been my experience however when Herb was "on the air," he always conducted himself as a gentleman and in a way we might hope that our typical Amateur Radio fraternity would conduct themselves on the air. Therefore, what's all this about character we're now hearing about?

I first stumbled into an apparent growing controversy on 20 Meters between Herb and the Intercon Net, around 1993, where he occasionally sought to remind the net control to be cautious of passing third party traffic from non licensed radio operators. He appeared to know of some instances. Many net controllers at that time however made it a habit of refusing to recognize his call. They obviously disagreed with him. It so happens that Herb is a very articulate individual on the air and those who looked to disagree with him on any topic nearly always came out on the short end, when it came to the logic of the situation. This of course only made those who disagreed with him more bitter. At that time he regularly QSOed with a pal in Florida on 20M, who is now a silent key. His friend was a reasonable fellow, but easily agitated by QRM. Both he and Herb were often harassed whenever they tried to operate on an open frequency around that portion of the band, and as the months went by, the folks who disagreed with them became more vindictive, and the QRM and foul language was reaching epic proportions. This was just what the few kooks and nuts needed to express themselves. Where was the FCC while all this was going on, I frequently pondered? Herb started to attract sympathetic amateurs around the country and even started a net proclaiming good operating practices. The opposition however became more bitter and bias issues crept in. There was soon talk about petitioning the FCC to get Herb's license revoked, on the grounds of his problem with the long distance telephone service. The vendetta of hate expressed by his detractors became staggering.

I am sorry that the FCC, a respected government agency, has been drawn into this old controversy, and to my mind on the wrong side. The FCC's justification concerning his operating practice appears ill founded. The FCC should support amateurs that show good operating prac-

Letters to the Editor

tice, as was evident to me by just listening to Herb "on the air." The FCC appears to be unwittingly supporting and been manipulated by, some who disrespect good Amateur Radio practice. I hope the FCC continues to appreciate that we are all human and prone to make mistakes and when the mistakes are unrelated to the Amateur Radio service, should not any judgment also consider past performance in our hobby as well? If Herb had solicited defensive help "on the air" while some were conspiring openly "on the air" against him, is that grounds for taking his license away? Considering Herb's past "on the air" practices and character, I feel he should be given another chance as the FCC has done for so many others.

Jacob Keim, KE4IM

Reusing that wall wart

I enjoyed the article on page 24, the October 2000 issue. It was informative and useful. Now for the inevitable "but." The author neglects to enlighten us about whether the the equation cited is a standard equation for all rectified transformer output voltage/current relationships. He also neglected to define the term "X" in his equation. It seems that X represents current since if X = 0 the first term (16.21) matches his curve at zero current. I did not substitute in the equation but assume X is in amps.

It is a small matter but I really would like to know where that equation came from. All the same I liked the article. Who among us doesn't have a sack full of wall warts laying around?

Hank Burwash, KQ6RG
Los Alamitos, CA

National simplex calling frequency...

I read with interest the comments in *Worldradio's* October 2000 issue about the national simplex calling frequency and its inactivity due to a non-coordinated effort to educate Hams across the nations about its possible greater usage.

I agree. I feel we are missing a lot by continually relying on repeaters. Don't get me wrong, I think repeaters and the long distances they cover serve the Ham community very well. But for local communications simplex would do a very good job. The problem as I see it is we don't monitor 146.520, because nobody else does. (I know there are a few that do monitor 146.520 and I feel more should follow their example but they are very few.)

Jim Kech, N6JIM, in his comments to the Editor is right. We need a more efficient use of this simplex frequency. And I agree that education about the use of 146.520 is what is needed. The problem is not equipment related. It's has nothing to do with frequency allocation. There is simply an educational void about the efficient use of this simplex frequency. There are two things that can be done.

First, the name of the 146.520 needs to be changed. I would recommend it be called the 'National Highway Simplex Frequency'. This name change would let everyone know, when you are traveling on the highways anywhere in the U.S. you can get local information, help, or nearby emergency communications, locally and not 30 miles away at the repeater location. Mobile stations could identify themselves for example by saying, "This is N5ABC monitoring the National Highway Simplex Frequency." By identifying in this manner anyone listening will know out of the many frequencys he is scanning which one you identified on.

Secondly, I suggest that one question be added to the licenses exam, simply explaining to all new hams the possible uses of the 'National Highway Simplex Frequency'. This would educate all new Hams as to the benefit they could get by monitoring 146.520.

I personally would like, while traveling, to have a simplex frequency that all stations monitor for near-by close contacts, to get very local information, about things in my immediate vicinity. I am not saying don't monitor repeaters. I am just saying that we could get greater use of 146.520 by advertising it as the 'National Highway Simplex Frequency'.

William J. Andress Sr., AC5WT
Orange, TX

Thank you, Mr. tuner-upper!

As I sweep my dial across the 20-meter DX hot spots, I ALWAYS stop and listen when I hear a "tuner-upper"! A long tune-up often means a rare DX station is there and someone is trying to cover him up (don't ask me why — I am not a shrink). But listen carefully when they unkey and be ready to pounce!

Further, when you run across a big "pileup" and determine the rare DX is working split and you can't find him, just tune down and listen for that "tuner-upper." Chances are, there is your rare DX. Getting through is up to you (turn on your DSP or use the notch filter).

Be sure to mentally thank the "tuner-upper" for the favor.

Les Cameron, W6EC
Lake Elsinore, CA

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

Lou Rempe, K9LJR

I'm submitting this photograph of my Amateur Radio station. All the gear is on a desk I bought as surplus from the State of Illinois. Among the gear is an MFJ 422B Keyer, and the main transceiver is a 21 year old Drake TR7 with MN75 matching network. I also use a Yaesu FT-77 for 10M FM. I can work 160M to 440 MHz.

For antennas I use an R5 vertical for higher HF bands, a 40/80/160M dipole and a dual band ground plane for VHF and UHF. I use CW, AM, SSB and FM modes, and I have been a Ham for over 28 years.

I am a retired dispatcher for the DeWitt County Sheriff's Department.

Inside Amateur Radio — One day in May

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.*

Among his souvenirs, Henry Obermeyer, K7WPG, has a letter which starts, "How does one man thank another for his life?"

On 04 May 1967, then an Air Force Staff Sergeant stationed in Germany, "Obie" was using his Amateur Radio station in his leisure time; it was around the dinner hour.

First he contacted a station on Guam for a chat, followed by one in Heidelberg.

"Suddenly we were interrupted by a voice calling for help along with his call sign. It was the American schooner, *Dante Deo*, a marine biological research vessel. I learned their approximate location was 250 miles off the coast of Da Nang, Vietnam.

"There were six adults and one child aboard. They had not been able to make radio contact with anyone on their side of the world. Running seas and high winds had set them directly toward treacherous reefs in the South China Sea.

"I immediately reached for the phone and advised the Atlantic Air Rescue and Recovery unit at Ramstein Air Base, which in turn alerted Florida, Hawaii and the group stationed in Vietnam.

"They dispatched an amphibious Albatross plane to the area, located the survivors in a life raft, and landed nearby.

"Happily, they all were taken aboard the plane, flown to Da Nang and then to Clark Field in the Philippines, all in good condition."

"Obie" was awarded the Air Force Commendation Medal for his prompt and efficient action.

W-100-N

Congratulations to the following deserving DXers for completing the requirements for *Worldradio*'s Worked 100 Nations Award.

574. Harry H. Hovey WF2B
575. E. Paul Flint NØTM
576. Joseph Gordon Funk, Jr. N3LRP
577. James B. Quillin WA4AJX
578. Edward G. Swiderski KU4BP
579. William I. Skofic K8FLY
580. Barry B. Storer KB8OMG
(All CW)

In the past I have had applications that claim Clipperton Island for French Polynesia. I know you are all proud of your Clipperton card(s) but please don't submit it. Although the island may be administered by French Polynesia I can't accept it — the island is uninhabited!

CATZ

And for our kitty award, Contact All Time Zones, we have two recipients of W100N:

27. Dennie E. Eisele WA9MTP
28. Caroline L. S. Swann W5NYL

One of these days I'll apply for the award. I have the required cards, but would like to make it all 20 Meters CW.

Tunisia (3V)

The IOTA DXpedition to Kerkenah Islands (AF-073) is confirmed and will take place between 15 and 30 November. According to *425 DX News* a team of 12 German DXers and three others will activate the island on all modes and bands, including the *CQ* Worldwide DX Contest. They will be signing TS7N with all QSL requests to DL6BCF. See their website at http://qsy.to/ts7n.

Also noted in *The Daily DX*, Mustapha, DL1BDF, has set up the new Amateur Radio station 3V8CB, Borg Sedria, Tunisia, located about 25 kilometers south of Tunis at the International Center Scout Camp. Equipment includes an FT-747GX and two dipoles. Mustapha is looking for a 3-element beam and rotor for the new station, which is available by simply contacting him. Other stations in Tunisia being planned for are in Sousse, Sfax and on the island of Djerba. QSL requests go via DL1BDF.

Libya (5A)

Abubaker Alzway, an operator at 5A1A, is a young electronics engineer with a specialty in microwave. Abubaker stresses the importance of sending your QSL requests via Registered Air Mail with SASE and no IRCs, as they are not valid in Libya. He says that green stamps are just fine. He can confirm all contacts with 5A1A since 1995, including that of 5A27 and 5A29. The 5A31 call used in September was to celebrate the 31st Anniversary of Great Alfath Revolution, (the Libyan Revolution), the biggest event in his country.

Abubaker can also be contacted via e-mail at elzo71@yahoo.com or sanacat@usa.net. However, he can only access the internet a few times per month.

DL2GAC as H44MS, Buma Village, Vanikoro Island, Temotu Province, Solomon Islands March 1992

Yemen (7O)

Bernie McClenny, W3UR, says in his electronic *The Daily DX* the ARRL has received many requests from DXers regarding the status of the 7O1YGF DXpedition to Yemen. As of 16 August the DXCC Desk had not received any documentation regarding this operation.

St. Paul Island (CY9)

Richard Harris, AI5P, reports on the success of the recent DXpedition to St Paul Island (NA-094) during the period 06-09 July. He said the DXpedition provided them with an opportunity to activate a physically challenging place definitely off the beaten path and was a chance to give a new one to the newer DXers. Another goal was to try to get into Japan and Oceania.

Their first contact was on 06 July at

2330 UTC with the final contact at 1900 UTC on 09 July. The four operators used their own calls appended with CY9 and made a total of 6,348 contacts.

The QSL cards have been ordered from Europe so it will probably be a couple of months before the cards are returned. Have patience, please. The QSL routes are: AI5P/CY9 via AI5P; KT1J/CY9 via K1WY DX Association; and WA4RX/CY9 and WV2B/CY9 via N2AU.

Tromelin Island (FR/T)

The big event during the month of August was the Lyon DX Gang DXpedition to Tromelin Island (AF-031). Unfortunately, propagation for working this lengthy call, FR/F6KDF/T, was not in favor most of the time.

The team ended their operations 14 August with some 51,500 contacts with four operators in 15 days of operation.

Kingman Reef (KH5K)

Gary Shapiro, NI6T, announces that the Kingman Reef DXpedition team will depart Honolulu 15 October for Kiritimati Atoll (Christmas Island) in Eastern Kiribati. The team will be met by the motor schooner *Machias* for the voyage to Palmyra Atoll (OC-085) and Kingman Reef (OC-096).

At Palmyra, they will be joined by Mike, KH6ND, who is currently active as KH6ND/KH5. The team may have the opportunity to spend some time at Palmyra before continuing to Kingman Reef.

Gary says they plan to spend at least 12 days on the reef and will operate on all bands from 160 to 6 Meters, CW, SSB and RTTY with up to six stations.

Expenses for this DXpedition include over $50,000 for transportation! They will be heavily dependent upon assistance from both individuals and DX organizations, especially in Europe, to meet objectives. Contributions should be sent to Tom Harrell, N4XP, 2011 New High Shoals Rd., Watkinsville, GA 30677.

Burkina Faso (XT)

A group of German DXers will active in Burkina Faso, 10 through 15 October, following their operation from Togo. Team members include of DJ7UC, DL4WK, DL7BO, DL7DF, and DL7UFR. No call has been given at this time of writing.

St. Peter & St. Paul Rocks (PYØS)

The Brazilian Navy finally came through on this one. But the original operators, Karl, PS7KM, and Tino, PT7AA, had other commitments and were unable to go. Two replacement operators were found, these being Al Archangelo, PY2ZX, and Ademir Moreira, PY2SP.

After setting up their equipment and antennas the two operators began operations on 25 August signing with PSØS all night long, mostly on 40 Meters CW. Unfortunately, their hosts had other duties which required the two DXers to stay off the air, apparently the rest of the time. QSL requests go via PY2SP, Ademir Moreira, Rua Abaitara 108, Sao Paulo/SP, 03714-060, BRAZIL.

Sao Tome & Principe (S9)

The Daily DX reports that Matt, DA1MH, hopes to be back on Sao Tome and Principe from 18 November to 3 December. He has applied for S92DX again and expects to be active from the smaller Principe Island (AF-044). Six meters is being planned.

IOTA

Roger Balister, G3KMA, lists the following operations that have been accepted by the IOTA Committee during the month of July 2000:

AS-041 JI3DST/4	Nakano Island, Oki Is.	(May 2000)
AS-043 JI3DST/1	Hachijo Island	(June 2000)
EU-177 SM4DDS/5	Aspoja Island	(June 2000)
EU-179 EM5UIA	Kalanchakskiye Islands	(July 2000)
EU-180 EM5UIA	Lebyazh'i Islands	(July 2000)
EU-181 LZ1UQ/1	Sveti Anastasiya Island	(July 2000)
EU-181 LZ2CJ/1	Sveti Anastasiya Island	(July 2000)
EU-181 LZ2FI/1	Sveti Anastasiya Island	(July 2000)
EU-181 LZ2FV/1	Sveti Anastasiya Island	(July 2000)
EU-181 LZ2JE/1	Sveti Anastasiya Island	(July 2000)
EU-181 LZ5QZ/1	Sveti Anastasiya Island	(July 2000)
EU-182 EM5UIA	Poludenyy Island	(July 2000)
EU-183 YP1W	Sacalinu Mare Island	(July 2000)
EU-184 OH1LU/8	Hailuoto Island	(July 2000)
NA-040 KL7/DL1YMK	St Lawrence Island	(July 2000)
OC-233 VK7TS/P	Bruny Island	(July 2000)

IOTA chasers love this fellow. Meet Bernard Stefan, DL2GAC, who flies out to the Pacific to activate some interesting IOTA islands. The first photo shows Bernard operating as H44MS from Vanikoro Island (OC-163) in the village of Buma. Next time you are relaxing in your shack working these far off places, remember Bernard's unique operating position.

Bernard also operated from the new DXCC entity of Temotu Province from the Reef Islands on Pigeon Island (OC-065).

The *425 DX News* notes the recent RKØFWL/P operation from Moneron Island (AS-149) logged some 8,000 contacts, with 800 of them in the annual RSGB IOTA Contest. This was a new IOTA island.

The activity during the International Lighthouse/Lightship Weekend in August brought out many an IOTA island for IOTA chasers. And conditions were good, too. However, due to space limitations, the list is available on the *Worldradio* web site at: www.wr6wr.com.

DL2GAC as H4ØMS on Pigeon Island, Reef Islands, Temotu Province, Solomon Islands, February 1999

IOTA Directory

If you have not already ordered your RSGB IOTA Directory 2000 you should. For qualifying islands the new directory goes into great detail. There have been many changes to the program and if you want to keep up with the program get the latest directory. North American DXers may order their copy by sending a check made out to IREF in the amount of $19 and sent to 118 Oak Ridge Drive, New Braunfels, TX 78132. You might also want to include another $25 for membership to IREF.

Within the next five years, there will be some deletions of islands that no longer qualify. Such as the case of Anglesey Island (EU-124) and you will need a substitute island in order to retain credit.

About 10 years ago there was a fellow very active from this group, GW4WJO, on Holy Island. This one will count.

DX Was

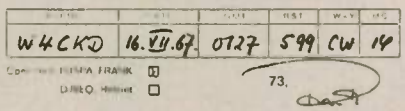
DX Was! Not really! That's just the title of a compendium of old newsletter stories and cartoons by Mike Crabtree, ABØX, editor of the *KC DX News* for members of the Kansas City DX Club. Mike has a good sense of humor and I'm sure you will enjoy reading this. For your copy send a check for $5.95 from the Low Band Monitor, P.O. Box 1047, Elizabeth, CO 80107.

Antique QSL Department

Again we dig into the QSL collection of Bob Ekleberry, W4CKD, for some oldies dating back to the 1960s.

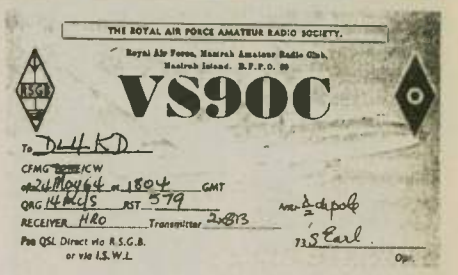
ANDORRA DX-PEDITION 1967

PX1EQ



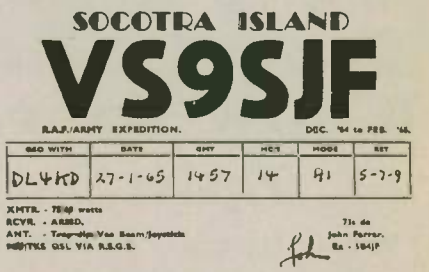
Most deserving DXers know the little mountain nation of Andorra has been assigned the C3 prefix. However, at one time they had the unoffical prefix of PX, such as PX1EQ. This was the call used by two German DXers, Frank, DJ5PA, and Helmut, DJ8EQ, for their 1967 DXpedition to Andorra.

Here are two island operations with the former VS9 prefixes. The first was for VS9OC, assigned to the Masirah Amateur Radio Club of the British Royal Air Force on Masirah Island. Bob worked this back in 1964. The DXCC Prefix Cross References list indicates



this would have been Oman (A4), but prior to 1961.

The third card is for a British RAF/



Army DXpedition to Socotra Island during the period of December 1964 to February 1965 using the call VS9SJF. This one is indicated on the Deleted DXCC List as the People's Democratic Republic of Yemen. However, the DXCC List in my 1954 Callbook shows this to be Aden & Socotra, which would eventually added to the present boundaries of

DX Prediction — November 2000

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 = 139. 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	*(14)*	12	*18	*11	*18
10	*(14)*	11	*18	*(11)*	*18
12	24	11	*17	20	*34
14	29	12	*28	*23	*38
16	*31	*(12)*	24	*21	*41
18	*31	*(11)*	*(22)*	18	*43
20	*26	20	30	13	*43
22	*23	25	*36	*13	*37
24	*17	20	*36	*12	*27
2	*16	14	24	*12	*24
4	*15	13	21	*11	*21
6	*(14)*	*12	19	*11	*19

WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	*(14)*	*12	*19	*(11)*	*18
12	*(14)*	*12	*18	*(11)*	17
14	24	*11	*17	19	*35
16	29	*14	*24	18	*40
18	*31	14	*(21)*	13	*42
20	*31	*26	30	*(12)*	*43
22	*26	*27	*35	*(12)*	*42
24	*23	*26	*39	12	*37
2	*17	*22	*37	11	*26
4	*16	*15	*27	11	*22
6	*(15)*	*13	23	11	*20
8	*(14)*	*13	*21	*12	*19

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	17	*12	(18)	*11	*19
9	17	11	*18	11	*18
11	*32	11	*17	*20	*31
13	*39	*12	*31	*24	*37
15	*42	*(12)*	26	*23	*40
17	*42	*(12)*	*(21)*	*21	*42
19	*35	*(11)*	27	15	*43
21	*29	20	34	*13	*38
23	*23	20	35	*12	*30
1	*20	14	23	*12	*25
3	*19	13	21	*12	*22
5	*18	*(12)*	19	*11	*20

Yemen. A check with my IOTA Directory Socotra Island would be included in the African listing as AF-028.

QSL Information

Evidently, there are confused DXers out there who think QSL printers are managers for those they print cards. Such as the case of Wayne Carroll, W4MPY, familiar to most of us as a printer of outstanding QSL cards. According to Wayne, about 50 percent of the cards he receives through his local QSL bureau are for stations that ordered QSL cards from him. QSLs by W4MPY does not mean QSL via W4MPY!!

Floyd Gerald, N5FG, Manager of the ARRL W5 Incoming QSL Bureau, reports that he has received an interesting bit of information from Mickey Gelerstein, CE3ESS, regarding QSL requests for XQØX, who says, "I am very sorry to let you know that the last time XQØX was on the air was on 19 July 1993! That's seven years ago."

Apparently, Slim has been on CW lately using the call XQØQ and giving his name as Nil.

For those non-ARRL members who don't use the outgoing QSL service, the Polish QSL Bureau has a new address at PZK Central QSL Bureau, P.O. Box 54, 85-613 Bydgoszcz 13, POLAND.

Martin Cook, N1FOC, says the QSL manager given in Buckmaster for A92V as via K3SIX is not correct. Sam Habit, K3SIX, has received many cards and cannot process them. This one is apparently Slim, a.k.a. Pirate! Many of us have worked him and he had a good signal here and it seemed to be coming from the right direction. So, if you hear A92V go ahead and work him. Worry about it later!

Thanks go to the following contributors for this month's column: 5A1A, DL2GAC, PY2HN, PY2ZX, K3ZO, W4CKD, N1FOC, N5FG, AI5P, ABØX, Northern Arizona DX Association (W7YS), Western Washington DX Club (WAØRJY), 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).

I'm not sure where this originated, but to me it sounds rather dumb. It's this "over over" stuff, the phrase I hear at the end of transmissions. I used to think operators used it for marginal contacts to make sure that the other end knew when to transmit. Regardless, it sounds dumb and somewhat irritating to say the least. I can understand the new amateur doing this, but seasoned DXers? Come to think about it, many old-timers don't bother with the "over" at all. He just stopped talking and that was it. 73 de John N6JM "OUT."

— John F.W. Minke, III, can be reached by writing to 6230 Rio Bonito Dr. Carmichael, CA 95608, or by e-mail: n6jm@pacbell.net.

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3V8BB DK9IP
3V8CB DL1BDF
3W2LC VK6LC
3W7CW SP5AUC
3XY2D W3HNK
3ZØGC SP6CES
3ZØMEM SP8BJH
3ZØMM SP3JHY
3ZØPW DL3KDC
4K5CW PA3EPG
4K6GF TA2ZV
4K8F UA9AB
4K9W DL6KVA
4L1BR KE1HZ
4L1FL 4Z5CU
4L1W LY2MM
4L4KL DL8KAC
4L5T LY2MM
4L6VV UA6EZ
4LY2K KE1HZ
4S7NZG NZ9Z
4S7VK DJ9ZB
4U/ON6TT/mON5NT
4U1WB KK4HD
4W/OH2BF OH2IC
4W/ON6TT ON5NT
4W6FK CT1FKN
4X/JM1LJS JL2XUN
4X6UO WB3CQN
4X85E DL1CC
5A/UYØMF pirate
5A1A(SSTV) pirate
5A31 5A1A
5H8TL W7RNF
5N2BHF OE6LAG
5N3CPR SP5CPR
5N9EAM/8 IK7JTF
5R8FU SMØDJZ
5R8GQ AD6KA
5R8GR DL2MY
5R8GS DL1DA
5R8O pirate
5U7DG K4SE
5V7VJ G4ZVJ
5WØSF OE2SNL
5X1P G3MRC
5X1Z SM6CAS
5Z4IC MWØAIE
6K21APJ HL5BUV
6W/DK8YY DH7WW
7Q7DC GØIAS
7Q7HB GØIAS
7Q7LA GØIAS
7S6LGT SK6NL
8J1RL JG3PLH
8N2ØØØ JARL

8P6ET WA4JTK
8P6JQ K9JJR
8P9JR PA5ET
8P9JS PA5ET
8P9JT PA5ET
8P9JU PA5ET
8Q7AB W7MP
8Q7JY JJ1LIB
8Q7SR I5NSR
8Q7XX EA4DX
8S6LGT SK6GX
8S9LH SM1TDE
9A/HA3HP/p HA3HP
9A/NØMX DJ2MX
9A/S53IPA/p S57AX
9A1V 9A4RV
9A9ØØZ 9A2DM
9AØØWCD 9A2DM
9G5AP UA3AP
9G5VJ G4ZVJ
9H0VRZ PAØJR
9H3AAK PE1RVQ
9H3CL DJ5CL
9H3LRK PAØLRK
9H3SWL PA2SWL
9H3X PE1NGF
9H3YM PE1OFJ
9J2BO W6ORD
9J2RA K6SLO
9K2ZZ W8CNL
9K9X 9K2HN
9M2/JI1ETU JI1ETU
9M6US N2OO
9M6WPT JA1WPX
9M6XXT JA1CMD
9MØF JA1HGY
9N1AC N3ME
9N1HA N5VL
9V1XE DL4DBR
9Y4SF WA4JTK
A22BE ZS6AKB
A35AD YT1AD
A35AU Z32AU
A35RK W7TSQ
A4/XE1KK XE1KK
A51AA F2VX
A52FH F8RZ
A52TT ON5NT
A5ØCDX pirate
A92V pirate
AI5P/CY9 AI5P
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AX2GAME VK2PS
AX2GWK VK2GWK
AX2ØØØ VK2PS
AYØN LU2NI
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BI2J W3HC
BI4CM BA4EG
BI4S BA4TB
BI5X BA4EG

BT2ØOO BA4EG
BTØS BA4DC
BV5BG IK7JTF
BX4AL W3HC
BX5AA BV5GQ
BY1DX OH2BH
C91RF DL6DQW
CE6TBN/7 CE6TBN
CEØY/JA3IG JA3IG
CO1OTA CO2FRC
CO2JD AD4Z
CO4OTA CO2FRC
CO7OTA CO2FRC
CO8LY EA7ADH
CO8OTA CO2FRC
COØOTA CO2FRC
CP6XE IK6SNR
COØODX CT2GZE
CS9AIM CS3MAD
CU8F CT1EFL
D2/SU1HM SU1HM
D2BB W3HNK
D2BF EA8EE
D2EB I3LLH
D68/G3OZF G3OZF
DAØLGT DL5EBE
DU/DK3GI DL2MY
DU1/DK3GI DL2MY
DU1KT KU9C
DXØØØ DU1SAN
E2ØHHK E21EIC
E2ØREX E21EIC
E3ØLA(00) W7LN
E3ØLA(99) I2YDX
E3ØMA(00) W7LN
E3ØMA(99) IK2WXZ
E4/7K1REG7K1REG
E4/JA1AFF JA1AFF
E4/JA1PBV JA1PBV
E41/OK1DTP OK1TD
EA3URT EA3AXD
EA8/N4GN N4GN
ED1SAC EC1AHS
ED2FPA EA2CBY
ED3PGT EA3DGN
ED4EVV EA4DBM
ED4ISN EA4EGC
ED5VRA EA5URA
ED6BSF EA6ZX
ED8GCL EA8AKN
ED8ILO EA8FT
ED9CCA EA9CE
EI8YLH EI8HT
EI9KLH EI9HQ
EK1SK(92) UA1RJ
EK6LV IK2DUW
EK6OTA SP9ERV
EM1KY UT7UA
EM1U UT7UA
EMØHD UT1HT
EN8ZIB UR5FEO
EO5GKU URØGK
EO6F UXØFF

EP2AC RV6AB
ES4ABO/8 ES4ABO
ES4BG/8 ES4BG
EU5A EU1FC
EU6YL DL8KAC
EW6AC DL8KAC
EW6GF DL8KAC
EW6MM DL8KAC
EX8F UA3AGS
EX8MLE IK2QPR
EX8MMS EX8F
EX8W UA3AGS
EXØV N6FF
EY8/ON6TT ON5NT
EY8CQ UA3AGS
EY8ZC EY8DV
EZ6DK UX5UO
F1FJL UA3AGS
FH/TU5AX F5OGL
FK8KAB/p FK8KAB
FM5GU KU9C
FOØDEH ON4QM
FOØ/F6DRO F6ITD
FOØAND WA6FGV
FOØJAN K6SHJ
FOØKUZ K9KUZ
FOØMOT OM2SA
FOØMOT/p OM2SA
FOØYAA JK1FNN
FOØYAM JK1FNN
FOØYOS JA3IG
FR/F6KDF/T F6KDF
FR5FC FR5FD
FW5FN HB9HFN
FY/F5AEG F5AEG
FY5FU F5PAC
FY5GS F6FNU
G3N G3WOI
GB2LO GMØHTH
GB5FI GWØANA
GBØNEW GWØKJZ
GM2T GMØALS
GM4WLL/pGM4WLL
GM5V GM3TUQ
GS2MP GM3WOJ
GU3VXJ G3VXJ
GU8D G3LZQ
GW6J GW4VEQ
H2G 5B4AGC
HC8N AA5BT
HF6FR SP6ZDA
HF6WR SP6ZDA
HFØPOL SP3WVL
HG8SDS HA8PH
HH2SJR EA5IQ
HI3HN DH2JD
HLØT/2 HLØT
HO1A DL6MYL
HP3XBH W4WX
HQØR EA4URE
HS2ZIU E21EIC
HS4BPQ E21EIC
HZ1AB K8PYD

II1VE I1BWI
II2TPV IK2YHB
II6PIX IK6DUN
IMØ/IK4HPU IK4HPU
IMØBMU ISØAGY
IMØBMU ISØAGY
IQ1L bureau
IQ3V IV3LNQ
IQ3V IV3LNQ
J28AG F6KQK
J28EX F5THR
J28FH WA2VUY
J3/DL2RVS DL2YY
J3/G3TBK G3TBK
J41OG SV1QN
J42OOO SV2TSL
J45KLN SMØCMH
J48HW I5JHW
J48RH IK8VRH
J5X DJ6SI
J5Z DJ9ZB
JD1BKQ JR3PZW
JF6WTY/6 JF6WTY
JI3DST/8 JI3DST
JT1FCP W8JAY
JT1FCP/5 W8JAY
JT1FDC UA4WHX
JY8NJ OD5NJ
K1DW/4 K1DW
K4USI NE4S
KB2FB/DU7 KB2FB
KC4AAA K1IED
KG4AS N4SIA
KH2/K4ANA W2PS
KH2/K4ANA W2PS
KH4/W8MV W8MV
KH6ND/KH5 K4TSJ
KT1J/CY9 K1WY
LS7N LU1NAF
LU7EE EA5RD
LX9DIG LX1MK
LXØGDJ bureau
LZ1NG/1 LZ1NG
LZ2ØØØA LZ2HM
M5D G3VHB
MMØBQI/pMMØBQI
NB6A/KH4 JE1RXJ
NC3DX W4GP
NH4/NH6YK NH6YK
NH6D/KH4 N6FF
NHØY KHØEN
NP4A W3HNK
OD5TE K3IRV
OH8T OH8TA
OHØ/SK3SNSM3KIF
ON4CEL/LGT K1WY
ORØSCO ON4SNW
OX/DK6XR DK6XR
OX/DK8XT DK8XT
OX/W5FKX W5FKX
OX3UB OZ1GER
OY4TN OY6FRA
OZ/G3PMR G3PMR

P29CC K1WY
P29DX EA4CEN
P39P 5B4ES
P43L AF7H
PA6Y PI4RCK
PJ2MI W2CQ
PP5AVM PP5LL
PQ7Q PY2IQ
PR8CBS PR8BNP
PSØS PY2SP
PW2A PT2BW
PW7L PY2KTT
PX8DX PY8AZT
PZ5JR K3BYV
R1AJV UA3AGS
R1AND DL5EBE
R1ANF RK1PWA
R1ANZ RU1ZC
R1FJO UA3AGS
R1FJV UA3AGS
R9/UT2LA UA3ZK
RA1TC/1 RA1TC
RAØBK DL8KAC
RAØBX UA3AGS
RF1P(99) UA1RJ
RI1POD(00) UA1RJ
RI1POM(00) UA1RJ
RI4M RN4LP
RIØZKR RAØZD
RK3BY/Ø RK3BY
RK3DZJ/1 RA3DEJ
RK9KWB DL8KAC
RM9RX RW9QA
RM9RX/9 RW9QA
RM9RZ RW9QA
RMØM UAØMF
RN9RZ RW9QA
RØ/US3IU UA3AGS
RØL IK2DUW
RV7AA NT2X
RW1ZZ/p RW1ZZ
RW3XZ DL8KAC
RW9QA RW9QA
RW9RN RW9QA
RX4CY DL8KAC
S21R N4VA
S21YT JA7KXD
S92SV SV8CRI
SM3/DL6JZ/p DL6JZ
SN6ØØUJ SP9KZ
SØ/ON6TT ON5NT
SO1MCW OK1MCW
SO5ASL G4ASL
SU1HM/D2 SU1HM
SU9ZZ OM3TZZ
SVØLR HB9LDR
SW8LH SV1ENG
SX8A SV2WT
SY2T SC2CWY
SY7LH SV7CLI
T3ØJH VK2GJH
T88BX JA6BX
T88IT JE4JPQ

T88JC JF1KJC
T88SW JH7IMX
T88VG JR6NVG
T88YH JAØDWY
T88YQ JA3MVI
T94DX DJ2MX
T98JV HA8JV
T99ZZ DL3BZZ
TA3BD OE2GRP
TA9F KA4UFT
TF1IRA TF3IRA
TF2OOO K1WY
TF8RX K1WY
TG9NX N4FKZ
TK/ON4IPA ON6AV
TO15Ø FR5FD
TRØA/p G3OCA
TT8FC EA4AHK
TT8JLB F5BAR
TX8LH VK4FW
UA1QM/1 UA1RJ
UA1QV/1 UA1RJ
UA2FB DJ9ZB
UA9QGB RW9QA
UE1QAA UA1RJ
UE1QKM UA1RJ
UE1QNY UA1RJ
UE1QSK UA1RJ
UE1RDM UA1RJ
UE1SAA UA1RJ
UE3DZS RK3FV
UE3YRY RV3YR
UE4NMM RA4NF
UE6AAD UA6CW
UEØLLH UAØMF
UN4P DL8KAC
UN5A DL8KAC
UN7EG DL8KAC
UN7ER DL8KAC
UN7PCZ DL8KAC
UNØNF DL8KAC
UP25ØA DL8KAC
UP55A DL8KAC
UP6P UN5PR
UT1QK DJØLZ
UT9F UX2FXX
UV5I UR6IM
UV5I UR6IM
UZ5M UX2MM
V2/G4DIY G4DIY
V26EA PA5ET
V26ET PA5ET
V26FM PA5ET
V26WP PA5ET
V59PP/L V51AS
V63DO JR3MVF
V63DX JA7HMZ
V63KA JH8BKL
V63MC JH8BKL
V63UB JR3MVF
V63YB JH8MYB
V73GT WF5T
VE1/AB7GR AB7GR

VE3EXY/2 VE3EXY
VI5ØBDX VK4XY
VK4FW/p VK4FW
VK6BM VK4AAR
VK8AN/6 VK4AAR
VK9CQ PA3GIO
VK9XV PA3GIO
VK9XY DH1SGS
VP2MPA PA5ET
VP5/K4ISV N2AU
VP5B N2AU
VP5Y KD4D
VP8/UT1KY UT7UA
VP8CQO CE8ABF
VP8LGT VP8ON
VQ9JT K5DIY
VQ9VK N1TO
VQ9ZX WJ7S
VU2ABE JA4DOB
VU2JPS VK9NS
VU2TS(30m) pirate
VU3MCV ON7LX
VU3VLH OK1MM
W1VX/KH4 JF1OCQ
W2T N2OO
WA4RX/CY9 N2AU
WP4Q EA5RD
WV2B/CY9 N2AU
XE1L WA3HUP
XQ3ZW CE3AA
XU7ABI ON5NT
XV9TH SK7AX
XX9TEP K8EP
YBØA W3HNK
YBØAZ W7TSQ
YBØDPO K5ZE
YBØHXH W4JS
YBØLBK W4JS
YBØRP W2FXA
YCØFYJ W4JS
YCØIEM/9 IZ8CCW
YCØKTQ KB6NAN
YCØYAD K5ZE
YI1BGD GØMMI
YI9OM OM6TX
YJØAXC JE1DXC
YK1CW pirate
YM3LZ TA3YJ
YN1KD TI5KD
YP1W YO3JW
YW5LF W4SO
YW5LF W4SO
ZA1E I2MQP
ZA1E I2MQP
ZB2FX G3RFX
ZC4ATC 5B4YX
ZC4RAF 5B4YX
ZD7VC ON4CAT
ZD9BV W4FRU
ZD9ZM K4CIA
ZF2JM KD3YK
ZF2SC KA9P
ZG2FX G3RFX

An alternative to the terrestrial repeater

I have written on this subject before, but as we rush toward the year 2001 and the coming "digital revolution" in Ham radio, the question bears repeating. So I ask: "Did you ever get the feeling that the world of Ham radio above 50 MHz is kind of stuck in a utility communications bind?"

By utility communications I refer to the thousands of FM repeaters that dot the worlds landscape. They are everywhere, they work well and they seem to be holding Ham radio hostage to a technology that dates back to the early part of the 20th century. As we race at break-neck speed toward the 21st century with its world of digital communications, maybe it is time for Amateur Radio to take a tiny step in the same direction. One way we can do this is begin replacing our antiquated FM-only repeaters with all-mode linear translators. The device that cares little of what it is relaying and can do analog and digital without noticing the difference.

There is no technical problem to putting up and operating a terrestrial linear translator. It was done out here in SoCal back in 1977. Ed Tippler, WA6KYZ and his partner, the late Jim Reiger, out in Ridgecrest, California were the first with a system operating on a 146 MHz repeater subband channel pair. There is also a narrow-slot 2-meter linear translator operating from a hilltop near Riverside, California for about 9 years (I can't say for certain that it's still there). Note however, that both of these were/are narrow bandwidth linear translators with their total bandwidth equal to that of a normal FM repeater.

Terrestrial wider bandwidth linear translators have been on the Ham bands for short periods of time before going into Earth orbit. Obviously I am referring to AMSAT and others involved in Amateur Radio space communications having routinely "mountaintop tested" the various linear translators that have flown on the Phase 2 and Phase 3 ham-sats. And, the linear translator that some call a "repeater" is again operating from Mir. Before it was delivered to the space station, it too was ground tested in Russia.

Actually, the technology has existed since about 1970 to build, install and successfully operate a wide bandwidth single site linear translator capable of translating well over a megahertz of spectrum. Even the band from 146.000 to 146.999 MHz could be single-site all-mode translated to 147.000 to 147-147.999 on a given region-wide basis. When I was still associated with that "other" independent Ham radio magazine, a major article on this topic appeared — I think in '78 or '79. It even had construction plans and photos of a supposed working model.

If technology isn't standing in the way, then what is? In one word: "politics" and the socio-scientific difficulties associated with human behavior. While I am not an expert in human behavior, I do know what I see. What I see is that linear translators have failed to capture the imagination of those who put up relay apparatus because they take away one thing very important to those who build and install such devices — the ability to look in a mirror, massage ones ego and say to themselves: "Gee whiz....I am important!"

I have interviewed several hundred repeater owner/operators since I began writing about the subject back in 1972. The one thing most seem to have in common is "ego." More precisely, it's a need for ego gratification and in my humble opinion, this is in no way a negative character trait.

Since Amateur Radio relay system owner/operators cannot be paid for providing relay services or their use, ego gratification is the only payback possible for the hours, days, months and years of selfless dedication. A good part of the ego gratification received by a repeater owner/operator comes from knowing that others are able to converse only because he or she invested the time, money and skill to build and install a relay system. Each time that machine goes "ker-chunk" it is ego fulfillment for the person — or persons who brought it to life.

But, a linear translator, say one designed to take in 146-147 MHz and relay it out onto 147-148 MHz has no "ker-chunk." It will have no ID easily discernable to "Joe User." It has no minute-to-minute sign to the world that "Charlie" put it up.

Rather, by design, such a device would be user-transparent. All the average Ham would know is that, somehow, "by magic," if you live in Peoria and transmitted any kind of signal (CW, AM, SSB, FM, packet FM, digital modes etc.) in the 146-147 MHz band — that it will appear at a stronger level exactly 1 MHz up the band. In essence, a kind of public utility, if you will.

The people who put it up and maintained such a linear translator would be total unknowns. Even if it were club sponsored, it would probably not be looked on as a "club machine" but rather as "public property." And putting the operating costs aside, and from a pure humanistic level, how long would it be before the "thrill" wears off and it became naught but a thankless job to maintain with no long term recognition from anyone in the community?

From the interviews I have conducted over the years, it appears as if FM repeater owner/operators have a definite bias against the very existence of terrestrial linear translators — maybe for fear that if one wideband unit were successful, there would no longer be a need for their FM-only repeaters, and in retrospect, any need for them. Or, returning to our earlier analogy: "..if the box can do it all, who needs Charlie?"

While the question of why there are very few terrestrial linear translators on the air in hamdom can be fought on a technocratic level, and probably will, I submit that until the day the repeater owners tire of designing, building, installing and maintaining FM-only systems that the linear translator, be it narrowband or wideband, will remain an orphan stepchild of VHF and UHF relay technology — operated mainly as a cross-band affair from Earth orbit. Because there are those who built such an orbital device can point to the heavens and say — "that's mine." That's their ego gratification.

Stakes raised at 2.4 GHz

The stakes in the ARRL campaign to maintain the Amateur 2.4 gigahertz band as Amateur Radio only have again been raised. The FCC has assigned a rulemaking number to the ARRL's petition requesting the Commission elevate the domestic status of Amateur and Amateur-Satellite services from secondary to primary in the band 2400 to 2402 MHz.

Now known as RM-9949, the League filed the Petition for Rule Making with the FCC on 17 July. Amateurs already are primary at 2390 to 2400 and from 2402 to 2417 MHz but the ARRL says it's necessary to secure the intervening spectrum slice to provide some assurances of future occupancy of the band segments for the next generation of amateur satellites, including Phase 3D. Comments supporting or opposing RM-9949 were due by the end of September.

Canadian amateur use of 2285-2483.5 MHz

To the north, Industry Canada has recently released a proposed policy governing spectrum utilization in a band which overlaps the amateur 2300 to 2450 MHz band. If approved, it will make it easier for more users to share this part of the spectrum.

At the present time, Canadian amateurs have only a secondary allocation between 2300 and 2450 MHz, and may not cause interference to primary users. The proposed policy does not mention Amateur Radio Canada's current request for a primary allocation around 2400 MHz, nor does it propose any changes which would take into account Ham concerns.

Radio Amateurs Canada says that it will be discussing the implications of the proposal with telecommunications regulators, and submitting a response outlining Amateur Radio's use of the band while expressing its concerns, together with recommendations.

Coordination returning to the "Big Apple"

As recently as few months ago, mentioning the words "repeater coordination" in and around New York City was a sure fire way of getting figuratively run off the air. After two successive failed repeater councils, most metro area system owners wanted nothing more to do with coordinators, spectrum planners or any regimented organization. As a result, anarchy was replacing reason with repeaters starting to pop up everywhere — some right on top of another repeater.

But as of 08 September this may all be changing. A group of well respected New York City, Long Island and Northern New Jersey Hams announced the formation of the Metropolitan Coordination Association.

Stephan Anderman, K2SMA is the president of MetroCor. If that name and call sign sound familiar it is the same Stephan Anderman who co-created and still anchors the weekly "This Week in Amateur Radio" satellite program. But Anderman's commitment to Ham radio goes a lot further than hosting a radio show. And for the last six months, he and a small group of supporters have been quietly working toward the creation of a spectrum management organization that will help the Big Apple and surrounding area cope with the ongoing growth in VHF and UHF communications.

Anderman believes MetroCor has a good chance of succeeding in this goal. He says he sees a new spirit of cooperation and a high level of professionalism that has been exhibited by those amateurs who have stepped forward to accept this challenge. He says the need for coordination and cooperation among Amateur Radio spectrum users now is greater than at any time in the past and that the people in MetroCor will be working very hard to make up for lost time.

Anderman stresses that MetroCor is a totally new organization. As such it will take some time to bring Amateur Radio frequency coordination back up to speed in the region after many years of neglect. He says that in fairness to those who had been granted coordinations by other entities, MetroCor has declared a moratorium on the issuance of new coordinations until 30 June 2001. He says that this grace period will provide amateurs within MetroCor's service area an adequate opportunity to renew or re-register previously coordinated spectrum usage through MetroCor. It will also give MetroCor the time to carefully build an infrastructure, put a staff in place, develop resources, and put coordination procedures in place.

According to Anderman, MetroCor plans to provide voluntarily frequency coordination services on all frequencies above 29.5 MHz. Its area of service will include

the New York counties of Bronx, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster and Westchester. In New Jersey, it plans to administer the counties of Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union, and Warren in the State of New Jersey. These areas, along with Dutchess and Ulster counties in New York, and the State of Connecticut, were formerly served by the now defunct Tri-State Amateur Repeater Council which became inactive in the mid 1990's and before that by the ill-fated Northeast Repeater Association that disappeared in early 1971.

Working side by side with Anderman are MetroCor Secretary Larry Lutzak, WA2CNV, of Bellerose, New York; Treasurer Richard Gelber, K2WR, of New York City; Mario Sellitti, N2PVP, of Keansburg, New Jersey; Ray Makul, K1XV, of Wharton, New Jersey, and Tom Raffaelli, WB2NHC, of Thornwood, New York. It's a true cross section of the regions Amateur Radio community rallying around one common theme — preserve the spectrum and make it available for all to use. (More information is on the web at http://www.qsl.net/metrocor)

And a century hangs

"Join us now, we're on a marathon. We're always dancing when the music plays. Join us now, we're on a marathon. Dancing, dancing through the nights and days."

If you are familiar with the songs and other writings of the late Jacques Brel, then you will already know that stanza comes from his song "Marathon." Written in the '60's, it chronicled Brel's view of the past and his prediction of a new century that would usher in such amenities as "...robots working in the cotton fields and vacations on Venus just a tourist deal..."

To some small degree Brel was correct. There are some improvements in farm technology, but not to the point of eliminating the human worker. And as we all know, Venus has been proven to posses too warm a climate for any sort of enjoyable vacation.

But it is several other words in this song that seem so apropos right now: "...the fifties zing because the sixties swing. And the seventies flash and the eighties bang. And the nineties whimper and the century hangs." And as we reach 31 December 2000, to paraphrase the great Brel, a century will hang. Yes, I know that it was last New Years when all the hoopla was going on about it being the beginning of the 21st century. In reality, that was naught but the worlds hucksters making the claim in the hope of cashing in on the date roll-over from 1999 to 2000. For advertising purposes, I guess it sounded better. But scientists and historians will tell you the truth. The new millennium actually begins on 01 January 2001. So with that in mind, please permit me to say Happy Thanksgiving, Happy Chanukah, Merry Christmas and most important: "Welcome to Ham Radio in the 21st Century."

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WA6ITF

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Amateur Satellites

Terry Douds, N8KI

Fall 2000, and we approach the launch of Phase 3D, FINALLY! There have been many problems, with Arianespace, with the launcher itself, with our arrangements to get the bird in the air, etc. — but it appears we are getting very close. As of the writing of this column, the launch campaign in Kourou, French Guiana, was scheduled to start on 11 September. Exact launch information for P3D is dependent upon the launch of Ariane 506, which was scheduled to go up on 14 September. P3D is firmly scheduled on Ariane 507, and if all goes as planned, the launch should occur either in late October or very early November. With luck, the bird will be in the air by the time you read this, and may even be open to amateur operation. It's been a long, hard struggle, but the end result should be the most exciting satellite ever available to amateurs.

The irony to this is that one of the leaders behind this satellite, AMSAT-DL Vice President Werner Haas, DJ5KQ, became a Silent Key just after we went to press for my last column. He was 66 years old.

He became a Ham in 1959, and focused his professional career on the possibilities of combining radio technology and space satellites. He was heavily involved in all the Phase 3 satellites (including the ill-fated Phase 3A, and Oscars 10 and 13), but had focused the last ten years towards making Phase 3D a reality. Even when he was already marked by his illness, Werner took it upon himself to personally travel to Orlando to perform the last acceptance tests of P3D. This gave him the assurance that he had given all in his power to make P3D successful. He set an incredible example for all of us, and future generations of amateurs will still owe a great debt to him for the abilities we have (and take for granted) to communicate via satellites. He will be greatly missed.

As we move forward towards using Phase 3D, the questions begin concerning operating modes and equipment needs. P3D will continue in the path begun by the earlier Phase 3 birds in using what we had traditionally called "Mode B", or 70 centimeters uplink and 2 Meters downlink. The mode names have changed. We now we will say Mode U/V (for UHF up and VHF down), and it probably makes a great deal more sense.

Mode U/V will utilize what has become well known in DX satellite circles — crossed Yagis. Currently, for use of a bird like Oscar 10 (Phase 3B), one usually needs about 100 watts to an 8-15 element crossed Yagi for uplink and a similar scenario for the downlink. Due to the extra power on board P3D, and it's heightened sensitivity on receive, ground stations should be able to both copy the bird with smaller antennas, but should need less uplink power as well. As always, close listening to the downlink beacon is necessary to match uplink power — remember, P3D features an "alligator" that will find people who use too much power and "notch" them out of the passband — misuse the bird, and you won't use the bird!

I've collated a series of tables here from the AMSAT web site to show the Uplink, Downlink and Beacon Frequencies that will be utilized on P3D. We don't really know yet how the controllers will setup the bird — basically any uplink can connect to any downlink, and there is the possibility of operating more than one mode at the same time, depending on the bands being used.

All receivers are inverting; this means that if you go up on Upper Sideband (standard operation) you will come down on Lower Sideband. Telemetry beacons are for command purposes, and they will use the same standard that existed with other Phase 3 birds, the 400 bit/s BPSK, for which there are many kit and commercial modems available for decoding the data. There are two Internal Housekeeping Units (IHUs) aboard the bird, hence the Middle Beacon can be switched between the two to obtain differing data depending on which one (or both) is in use at any one time.

A frequency conversion chart is available on the AMSAT-NA website (www.amsat.org) that will help you to find out where to transmit when you hear a QSO occurring. If the bird is in Mode U/V and you hear someone on 145.890 MHz, you can use this chart to determine the appropriate uplink frequency (which would be 435.685 MHz in this example).

Stay tuned to your nearest Amateur Radio news source (perhaps *Worldradio*?) to obtain up-to-date information as we approach this new milestone in Amateur Radio space communications.

On other fronts, I've reported recently about the use of Palm Pilot (and other palm-size portables) for tracking information. This is getting more and more popular. The leader in software for these devices seems to be Pocket Sat, which is shareware, and is quite reasonably priced. Check it out at http://www.emmgraphics.com/pilot/index.html.

The first Amateur Radio Satellites from The Kingdom of Saudi Arabia were being constructed this summer by the Space Research Institute at the King Abdulaziz City for Science and

Amateur Satellites

P3-D Uplink Frequencies

Digital	Analog	Passband
15M	none	21.210 - 21.250 MHz
12M	none	24.920 - 24.960 MHz
2M	145.800 - 145.840 MHz	145.840 - 145.990 MHz
70cm	435.300 - 435.550 MHz	435.550 - 435.800 MHz
23cm(1)	1269.000 - 1269.250 MHz	1269.250 - 1269.500 MHz
23cm(2)	1268.075 - 1268.325 MHz	1268.325 - 1268.575 MHz
13cm(1)	2400.100 - 2400.350 MHz	2400.350 - 2400.600 MHz
13cm(2)	2446.200 - 2446.450 MHz	2446.450 - 2446.700 MHz
6cm	5668.300 - 5668.550 MHz	5668.550 - 5668.800 MHz

P3-D Downlink Frequencies

Digital	Analog	Passband
2m	145.955 - 145.990 MHz	145.805 - 145.955 MHz
70cm	435.900 - 436.200 MHz	435.475 - 435.725 MHz
13cm(1)	2400.650 - 2400.950 MHz	2400.225 - 2400.475 MHz
13cm(2)	2401.650 - 2401.950 MHz	2401.225 - 2401.475 MHz
3cm	10451.450 - 10451.750 MHz	10451.025 - 10451.275 MHz
1.5cm	24048.450 - 24048.750 MHz	24048.025 - 24048.275 MHz

P3-D Telemetry Beacons (IHU)

	General Beacon (GB)	Middle Beacon (MB)	Engineering Beacon (EB)
2 m	none	145.880 MHz	none
70cm	435.450 MHz	435.600 MHz	435.850 MHz
13cm(1)	2400.200 MHz	2400.350 MHz	2400.600 MHz
13cm(2)	2401.200 MHz	2401.350 MHz	2401.600 MHz
3cm	10451.000 MHz	10451.150 MHz	10451.400 MHz
1.5cm	24048.000 MHz	24048.150 MHz	24048.400 MHz

Technology in Riyadh. Launch was set for 25 August 2000, but was scrubbed; launch was pending at press time. These satellites will be capable of 9k6 digital store and forward operation (Packsat Broadcast Protocol compatible) as well as FM bent pipe mode.

These satellites will use the following downlink frequencies. Uplinks are in the VHF band and will be announced after commissioning.

SAUDISAT-1A : 437.075

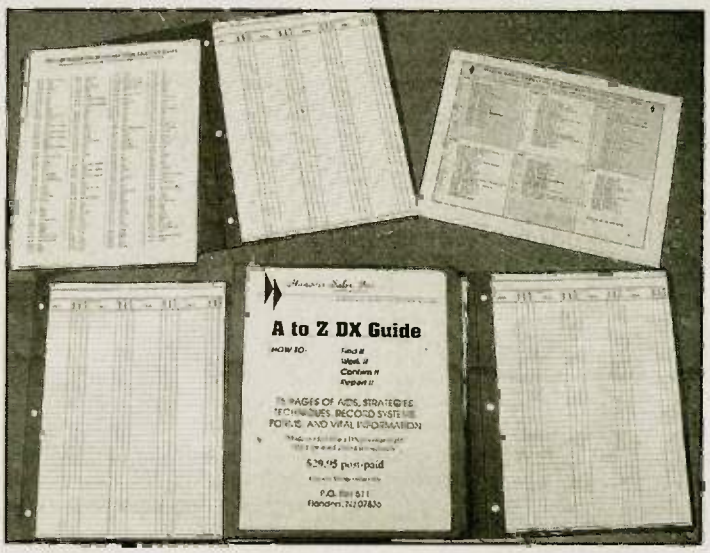
SAUDISAT-1B : 436.775

Additionally, the first satellite from Malaysia was also to go up on the same booster as the SaudiSats — it will be called "TIUNGSAT-1." It will have uplinks on 2 Meters at 144.46, 145.85, and 145.86 MHz, and downlinks on 70cm at 437.3, 437.325, 437.350, and 437.375 MHz. The bird will also be a digital satellite, using FM and FSK at data rates of 9600, 38400 and 76800 bps. Be watching for information concerning their launch and use.

Once again I'm running out of room, so I'll bring this quarter's column to a close. As always, if you've got questions, feel free to e-mail or send snail mail to me at the addresses at the end of the column — I'll reply as quickly as I can! Hope to work you soon on the birds!

— Terry Douds, N8KI, our fabulous Amateur Radio satellite columnist can be contacted by snail mail to: 344 E. 5th Ave., Lancaster, OH 43130-3143, or by e-mail to: n8ki@amsat.org.

Product Review



The A to Z DX Guide

Rick McCusker, WF6O

Most of you are aware of my quest for foreign QSL cards. After all, the foreign QSL card has to be in hand in order to qualify for the coveted DXCC certificate. Every HF operator wants one of those certificates — even if they won't publicly admit it.

So imagine my surprise when I received a package in the mail from Tom Phillips, W3WST. In the package was Tom's "A to Z DX Guide." Not only is this a "how-to" guide in the quest for DX, it's also an extremely useful guide on the fine art of getting a return QSL card from that elusive DX station.

The guide is divided up into several sections, and comes in an attractive binder. Inside the front cover are several sheets (in page protectors) with the Table of Allocation of International Call Signs, the U.S. Amateur band plan and a two-sided copy of the major operating events and contests put out by the ARRL.

The actual guide is separated into easy to find sections entitled: Finding the DX, Working the DX and Confirming the DX.

In the "Confirming the DX" section you'll find lots of information on DXCC fee schedule, ARRL outgoing QSL service, a list of countries not served by the bureau, the incoming QSL bureau system, incoming QSL bureau addresses and a sample log sheet.

Tom also includes his system of keeping track of needed countries using "At-A-Glance" contest log sheets, "At-A-Glance" band sheets, "At-A-Glance" que cards and QSL logbook sheets. Lots of hints are given for keeping track of this information and having it handy for quick reference.

In the back of the binder is a supply of blank "que" cards and three additional folders of blank log sheets. Tom suggests photocopying all of these forms and using copies instead of the masters. By taking his advice, a Ham can make this one binder last forever.

Also included in the package are blank forms for listing your QSL cards for the DXCC certificate program.

Tom has over 280 countries worked with 272 confirmed, so I am inclined to give his system a try. It certainly couldn't hurt!

The "A to Z DX Guide" is available from Tom by sending him $29.95. The address is: Tom Phillips, W3WST, Hanover Sales Inc. 1 Patriots Way, P.O. Box 511, Flanders, NJ 07836. If you need additional information, call Tom at 973/584-3387.

Visit Your Local RADIO CLUB

ARIZONA

Arizona Repeater Association. P.O. Box 35758, Phoenix, AZ 85069-5758. Operates 20 VHF & UHF rptrs. in AZ. Meets 4th Thurs./monthly, 7:30 p.m., APS Shure Building, 2124 W. Cheryl, Phoenix, AZ. Info:www.goodnet.com/indirect/www/ara 12/00

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. 5/01

Old Pueblo Radio Club, (OPRC). P.O. Box 42601, Tucson, AZ 85733. Meets 2nd Wed./monthly, 7:15 p.m., Tucson Med. Cntr., Grant & Beverly St. in the AZ Rm. of the Volunteer's Bldg. (1st bldg. on the left going north off Grant). 2/01

CALIFORNIA

Amador County Amateur Radio Club. P.O. Box 1094, Pine Grove, CA 95665. Meets 1st Thurs./monthly, 7:30 p.m., Jackson Sr. Cntr., 229 New York Ranch Rd., Jackson, CA. Info: 146.835(-). 5/01

Amateur Radio Club of Anderson, (ARCA). Meets 2nd Thurs./monthly, 7:30 p.m., VFW #9650, 3210 W. Center St., Anderson, CA. Net every Tues., 7:30 p.m. on 146.640 freq. Website: www.snowcrest.net/bgorski/index.html 2/01

Clairemont Rpt. Assoc. Meets bi-monthly brkfst mtg, 3rd Sat./odd no. months, Westminster, CA. Info: send SASE to P.O. Box 7675 Huntington Bch, CA 92615 or W6UTE in Call Bk. Net ea. Tue., 7 p.m. 145.220(-)PL 103.5 in So. CA 3/01

Coachella Valley ARC. Box 11092, Palm Desert, CA 92255-1092. Meets 2nd Wed./monthly, 6:30 p.m., Portola Com. Cntr., 45480 Portola, Palm Desert. Info: Bill Dews, (760) 346-8611. Net Thurs. 7 p.m. 146.025(+) PL 107.2. 5/01

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. 2/01

Cupertino ARES (CARES). Meets 1st Thurs./monthly, 7:30 p.m., Cupertino City Hall, CA. Net ea. Tues. 7:45 p.m. on 147.57 simplex. EC - Jim Oberhofer, KN6PE. www.zoy.net/CARES 6/01

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@downeyarc.org 6/01

East Bay Amateur Radio Club, Inc. Meets 2nd Fri./monthly, 7:30 p.m., Albany Sr. Cntr., 846 Masonic Ave., Albany, CA. Info: S. Primbsch, (510) 741-8227. 145.11(-) MHz. 9/01

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: hhp://edcarc.tripod.com. Net: Thurs., 7:30 p.m. 147.825(-) PL 82.5 6/01

Fresno Amateur Radio Club. Meets 2nd Fri./monthly, 7:30 p.m., Ernie Pyle School, 4140 N. Augusta, Fresno, CA. 146.94(-) 223.94(-). 11/00

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 345 Cherry St. (Library Rm.), Chico. 5/01

Golden Triangle Amateur Radio Club. P.O. Box 1335, Wildomar, CA 92595. Meets 4th Mon./monthly, 7 p.m., Beverly Health Care, 24100 Monroe Ave., Murrieta, CA 92562. Rptr: W6GTR 146.805(-) PL 100. Info: H. Wijma, AC6VN, (909) 693-2383. E-mail: ac6vn@cs.com. Web: http://www.qsl.net/gtarc 9/01

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. 2/01

Los Banos Amateur Radio Club. Meets 2nd Sat./monthly, 7 p.m., Los Banos Police Admin. Annex Bldg., 535 J St. Info: M. Germino, AD6AA, (209) 826-0903, E-mail: AD6AA@arrl.net. Net 147.060(+) PL 107.2 every Thur. 7 p.m. Rpt. KB6NMP 147.06(+) PL 107.2 & 444.00(+) PL 241.8. http://www.qsl.net/lbarc/ 6/01

Motorcycling Amateur Radio Club. Meets 2nd Sat./monthly, 8 a.m., Lake View Cafe, 2099 E. Orangethorpe, Placentia, CA, 91 Fwy/Lakeview. Info: R. Davis, KD6FHN, (949) 551-1036 or (949) 551-2010. 5/01

Mount Diablo Amateur Radio Club. P.O. Box 23222, Pleasant Hill, CA 94523. Meets 3rd Fri./monthly, 7:30 p.m., Our Savior's Lutheran Ch., 1035 Carol Ln, Lafayette, CA. Net Thurs. 7:30 p.m. on 147.06(+) PL 100Hz. Info: (510) 932-6125. 8/01

North Hills Radio Club. Meets 2nd Tue./monthly, 7:30 p.m., SMUD Bldg., Don Julio & Elkhorn, Sacramento, CA. Nets 8 p.m. Tue., (except 2nd Tue.) & Thur., 145.190(-) PL 162.2 Hz. Info: B. Griffin, (916) 729-7117. E-mail: dixdood@aol.com or nhrc@k6is.org 4/01

Orange County Amateur Radio Club. 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 Parry Hoffman, K6LDC, (714) 636-4345 WWW.W6ZE.ORG 2/01

Poinsettia ARC. Meets 1st Thurs./monthly, 7:30 p.m., First Christian Ch., Telegraph Rd. & Teloma Dr., Ventura, CA. Info: J. Casper, N6PIQ, (805) 649-1445. 6/01

Redwood Empire DX Assoc., W6KB. P.O. Box 455, Santa Rosa, CA 95402. (707) 544-4944. DX & contest club. Dinner mtg. 3rd Wed./monthly, 6:30 p.m., Carrows Rest., Hwy 101 & E. Washington, Petaluma. www.redxa.com 12/00

River City A.R.C.S. Meets 1st Tues./monthly, 7:30 p.m., SMUD Bldg., Don Julio at Elkhorn, 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, KC6EO, (916) 722-9358 or L. Ballinger, WA6EQQ, (916) 393-4775. 4/01

Sacramento "Old Timers" Amateur Radio Society and Sacramento Valley Chapter #169 QCWA (Quarter Century Wireless Assn.). Meets 2nd Wed./monthly, 8 a.m., Lyon's Rest., 1000 Howe Ave., Sacto. CA. Info: Paul Wolf, W6RLP (916)489-8112. 12/00

Shasta Cascade Amateur Radio Society, (SCARS). P.O. Box 493549, Redding, CA 96003. Meets: 3rd Wed./monthly (Sep-May), 7:30 p.m. at the C.D.F. Conf. Rm. Grape St., near Parkview Ave., Redding, CA. Net 146.64, Wed., 8 p.m. 3/01

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 94.8. 6/01

Sonoma County Radio Amateurs, 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 ea. Tues., 7 p.m. W6SON. Rptr. 146.73(-) PL 88.5. www.cds1.net/scra 12/00

South Bay ARC. P.O. Box 536, Torrance, CA 90508. Meets 3rd Thurs./monthly, 7:30 p.m., Torrance Memorial Hosp., 3330 Lomita Blvd., Torrance, CA. Talk-in on WB6MYD rpt. 244.38(-). Info: (310) 328-0817. 8/01

Southern California Six Meter Club. P.O. Box 10441, Fullerton, CA 92635. USB Net Tue., 8:00p.m., 50.150. FM Rpt. Net Thurs., 7:30 p.m., 52.86/52.36 tx. FM Smplx, call freq. 50.300. Net Sun., 10 a.m. 50.40. 12/00

Stanislaus Amateur Radio Assoc., Inc. (SARA). P.O. Box 4601, Modesto, CA 95352. Meets 3rd Tues./monthly, 7:30 p.m., NW Modesto Police Station, 2005 Evergreen, Ste. 600. Net 1.2+4 Tues. 7:30 p.m. 145.390(-) PL 136.5 2/01

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. 1/01

Trinity County ARC. P.O. Box 2283, Weaverville, CA 96093. Meets 2nd Wed./monthly, County Sch. Adm. Bldg., 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 2/01

United Radio Amateur Club, K6AA. L.A. Maritime Museum, Berth 84, Foot of 6th, San Pedro, CA 90731. Meets 3rd Fri./monthly (except Dec.), 7:00 p.m. Monitors 145.52 Simplex 10 a.m.-5 p.m. 8/01

Vaca Valley Radio Club. Meets 2nd Wed./monthly, 7:30 p.m. (Board mtg., 7 p.m.) Vaca Fire Dist. Stn., Vine St., Vacaville, CA. Rptr. WD6BUS 145.47(-) PL 127.3. Jim Bullington, (707) 446-4347 8/01

Victor Valley Amateur Radio Club. P.O. Box 869, Victorville, CA 92392. Meets 2nd Tue./monthly, 7 p.m., The Lewis Cntr, 20702 Thinderbird Rd., Apple Valley, CA. Talk-in 146.94(-), PL 91.5. Net Sun. 7 p.m. 146.94(-) 3/01

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 2/01

Yolo Amateur Radio Society. Meets 1st Tues./monthly, 7:30 p.m., Davis Explorit! Science Cntr, 3141 5th St., Davis, CA. Contact Dave Nishikawa, KC6YFG, (916) 756-6375/Talk-in 144.430. 3/01

COLORADO

Boulder Amateur Radio Club (BARC). Meets 3rd Tues./monthly, 7:00 p.m., NIST rm 1107, 325 So. Broadway, Boulder, CO. Talk-in:146.70(-). Info: (303) 380-6540, e-mail: BARC5Ø@arrl.net or www.thisistrue.com/barc.html 8/01

CONNECTICUT

Tri-City Amateur Radio Club. P.O. Box 686, Groton, CT 06340-0686. Meets 2nd Tue./monthly, 7 p.m., St. Lukes Lutheran Church of Gales Ferry on Rt. 12. Info: B. Dargel, KA1BB, (860) 739-8016. 8/01

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. 11/00

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-. 11/00

South Brevard Amateur Radio Club. P.O. Box 2205, Melbourne, FL 32902. Meets 1st Tue./monthly, 7 p.m., Public Library, 540 Fee Ave., Melbourne, FL. 12/00

GEORGIA

Cherokee Capital ARS. Meets 2nd Tue.monthly, 7 p.m., New Echota Methodist Church, 488 Red Bud Rd., Calhoun, GA. 146.805(+). Info: Felton Floyd, AF4DN, (706) 629-0369. 1/01

Dalton Amateur Radio Club, Inc., (DARC). P.O. Box 143, Dalton, GA 30722-0143. Meets 4th Mon./monthly, 7:30 p.m., Magistrate Court Bldg., corner of Waugh St. & Thornton Ave., Dalton, GA. Info: Harold Jones, N4BD, 706/673-2291. 5/01

Gwinnett Amateur Radio Society, (GARS). P.O. Box 88, Lilburn, GA 30048. Meets 3rd Thurs./monthly, 7:30 p.m., Gwinnett Central Baptist Church on Gwinnett Dr., Lawrenceville, GA. 147.075+ PL 82.5. Contact: Mike Swiderski, K4HBI, (770) 449-0369. 8/01

HAWAII

Emergency ARC, (EARC). P.O. Box 30315, Honolulu, HI 96820-0315. Meets 4th Thurs./monthly, 7 p.m., Am. Red Cross, 4155 Diamond Head Rd. Nets: nightly 7:30 p.m., 146.88 & 146.80. Rptrs: 146.76(-), 146.80(-), 146.88,146.98(-), 146.94(-). Info: (808) 256-6001, WH6CZB. www.qsl.net/earc/ 12/00

Koolau Amateur Radio Club, (KARC). 45-145 Mikihilina St., Kaneohe, HI 96744. Meets 2nd Sat./monthly, 9:30 a.m., Hoomaluhia Botanical Garden., Kaneohe, HI. Info: (808) 235-3042. http://www.chem.hawaii.edu/karc/ 8/01

ILLINOIS

Chicago FM Club Inc., (CFMC). P.O. Box 1532, Evanston, IL 60204. 146.76(-) PL 107.2/224.10/224.18/443.75 PL 114.8. Ham help line: (773) 262-6773. Info net Tues., 9 p.m. on 146.76(-). Meets 3rd Wed./monthly, 8 p.m. 8/01

Fox River Radio League. P.O. Box 673, Batavia, IL 60510-0673. Meets 2nd Tue./monthly, 7:30 p.m., Old Bank Bldg., 900 No. Lake St., lower level, Northgate Shopping Ctr. & Rt. 31, Aurora, IL. 8/01

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

Peoria Area Amateur Radio Club, (PAARC). P.O. Box 3508, Peoria, IL 61612. Meets 2nd Fri./monthly, Red Cross Chapter House, 311 W. John Gwynn Jr. Ave., Peoria, IL. Voice mail: (309) 692-3378. Rptrs: 147.075(+) & 146.85(-). 8/01

The Starved Rock Radio Club, W9MKS. P.O. Box 198, Tabor St., Leonore, IL 61332. Meets 1st Mon./monthly, 7 p.m. Rptr. net 7 p.m. Wed./wkly., 147.12(+) PL 103.5. Web: http://www.qsl.net/w9mks E-mail: w9mks@qsl.net 6/01

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. 11/00

MAINE

Androscoggin Amateur Radio Club. Meets 1st Wed./monthly, 7 p.m., Auburn Police Station, 1 Minot Ave., Auburn, ME. Info: (207) 782-8699. 7/01

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 each Mon. 8:30 p.m. on 146.805(-), tone 107.2 Hz. http://www.qth.com/mobileers 7/01

MASSACHUSETTS

Genesis Amateur Radio Society. P.O. Box 1234 Plymouth, MA 02362. Meets last Mon./monthly, 7:30 p.m. at Plymouth Airport, So. Meadow Rd. Tues. net: 146.685, W1LM, 8 p.m. 7/01

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(-). 5/01

Genesee County Radio Club, Inc. Meets 3rd Tues./monthly, 7:30 p.m., Genesee Area Skill Center, Torrey Rd., Flint, MI. (810) 733-2082. 3/01

MISSISSIPPI

Jackson ARC Inc. Meets 3rd Thurs./monthly, 7 p.m. Am. Red Cross Bldg., Riverside Dr., Jackson, MS 39202.11/00

West Jackson County Amateur Radio Club, Inc. Meets 3rd Tues./monthly, 7 p.m., Ocean Springs Court Room, Ocean Springs, MS. 1/01

MISSOURI

Macon County ARC. P.O. Box 13, Macon, MO 63552. Meets last Wed./monthly, 7 p.m., Macon R-I High Sch., rm.167. Net every Thurs., 8:30 p.m. 146.805. E-mail: nøpr@arrl.net 1/01

NEBRASKA

Ak-Sar-Ben ARC of Omaha. P.O. Box 24551, Omaha, NE 68124-1551. Meets 2nd Fri./monthly, 7:30 p.m., Red Cross, 81st & Spring Sreet. http://www.qsl.net/k0usa 7/01

NEVADA

Frontier Amateur Radio Society, (FARS). Meets: 2nd Sat./monthly, bkfst. mtg. 9 a.m., Country Inn, 1990 West Sunset, corner of Valle Verde, Henderson, NV. Info: J. Frye, NW7O, (702) 456-5396 or B. Scanborough, WA6ASI, (702) 269-9551 8/01

Sierra Intermountain Emergency Radio Assoc., (SIERA). Meets 2nd Tues./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. 1/01

NEW HAMSHIRE

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. 11/00

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. 6/01

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. 12/00

South Jersey Radio Assoc., (SJRA), K2AA. Meets Jan.-Oct., 4th Wed./monthly, 7:30 p.m. (Nov.-Dec. 3rd Wed), Bloomfield Fire Hall in Pennsauken, NJ. Talk-in: 145.29(-) rptr. 8/01

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. 2/01

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 6/01

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. 3/01

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. 6/01

South Towns Amateur Radio Soc. (STARS). Meets 1st Thurs./monthly, 7:30 p.m., Hamburg Youth Cntr, Prospect Ave.Hamburg, NY (exc. Jul, Aug @ NIKI Base). Info: N2TEZ, 180 University Ave., Depew, NY 14043. Web: www.cmp-express.com/stars. Rpt: WB2ELW 147.090(+) PL107.2 11/00

Suffolk County Radio Club, (SCRC). Meets 3rd Tues./monthly, 8 p.m., Bohemia Rec Ctr., Ruzicka Way, Bohemia, NY. Talk-in: 145.21(-) rpt. W. Black, KB2YAP, (631) 289-5587 7/01

Westchester FM Repeater Ass'n. K2JQB Rptr. 146.91 MHz. Meets 3rd Thurs./monthly, 7-9 p.m., Yonkers Pub. Lib., 1500 Central Pk. Ave., Yonkers, NY, near S.E. cornor of Tucahoe Rd. Free Parking. Info: M. Grossman, K2CON at (718) 544-2370 or E-mail: K2CON@ hotmail.com 6/01

Yonkers Amateur Radio Club, (YARC). Meets 2nd Sun./monthly, 10 a.m., 1st Pct., Yonkers Police Station, E. Grassy Sprain Rd., Yonkers, NY. Info: P.O. Box 378, Centuck Sta., Yonkers, NY 10710. (914) 963-1021. 146.865(-), 440.150(+). 2/01

NORTH CAROLINA

Stanly County Amateur Radio Club. Stanfield NC. Meets 4th Thurs. monthly, 7 p.m. Talk-in 146.985(-) for location. Wed. net 9 p.m. 146.985(-). Fri. tech net 9 p.m. 147.390(+). Ph: (704) 888-4815. www.mdsmm.com/scarc/ 5/01

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(-). 1/01

OREGON

Central Oregon Coast ARC. P.O. Box 254, Florence, OR 97439. Meets 2nd Sat./monthly, at Bliss' Route 66 Restaurant at Hwy 101 & 12th St. Net Wed. 7 p.m., 146.80(-). Info: 997-2323 or 997-4074. 6/01

Hoodview ARC. P.O. Box 20624, Portland, OR 97220. Meets 3rd Thurs./monthly, 7:30 p.m., Mt. Hood Com. College/Gresham, Rm 1001. Rptrs: 147.28(+), 448.475(-5) (tone 167.9) http://www.wb7qiw.org 5/01

Umpqua Valley Amateur Radio Club, Inc. P.O. Box 925, Roseburg, OR 97470. Meets 3rd Thurs./monthly, 7:30 p.m., Douglas County Court House, Rm. 310, Roseburg, OR. Info: K6AZW/R 146.90(-) (PL100) or (541) 784-3621. 8/01

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. 145.Ø5. 6/01

Mid-Atlantic ARC, (MARC), WSNWA. Meets 3rd Thurs./monthly, 8 p.m., Radnor Mem. Library, Wayne, PA. Rtrs 147.06, 145.13. Net, Sun., 8:30 p,m, http://www.marc-radio.org 11/00

TEXAS

Brazos Valley Amateur Radio Club, (B-VARC). P.O. Box 1630, Missouri City, TX 77459. Meets 1st Thurs./monthly, 7 p.m., Sugar Land Community Ctr., 226 Matlage Way., Sugar Land, TX. 12/00

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-. 10/01

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 3/01

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.series2000.com/users/wa4nvi/parc/htm 6/01

Southern Peninsula Amateur Radio Club, W4QR (SPARK). Meets 1st Tue./monthly Sal. Army Com. Bldg., Hampton, VA. Rptrs 146.73(-), 449.55(-). VE Exam Info: (757) 898-8031, W4RTZ. 3/01

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. 2/01

Woodbridge Wireless, Inc. (WWI). Meets 2nd Tues./monthly, 7:30 p.m., Canteberry Woods Comm. Cntr.(corner of Springwoods & Chaucer), Lake Rige, VA. Talk-in 147.24(+). For info: http://www.pwcweb.com/wwi/ 7/01

WASHINGTON

The Mike & Key Amateur Radio Club. Meets 3rd Sat./monthly, 10 a.m., Salvation Army Renton HQ., 720 Tobin St., Renton, WA. Talk-in on 146.82(-) (103.5 CTCSS) rptr. Doors open 9:30 a.m. 5/01

WEST VIRGINIA

Jackson County ARC. Meets 1st Thurs./monthly, 7:30 p.m., St. John Episcopal Church of Ripley. Net Mon. 9 p.m. on 146.67(-) WD8JNU/R. Info: D. Tennant, N8ZYB, Rt. 1, Box 188, Mt. Alto, WV 25264. 7/01

Tri-State Amateur Radio Association. Meets 3rd Tues./monthly, 7p.m., Museum of Radio & Tech., 1640 Florence Ave., Huntington, WV 25701. (304) 525-8890. 6/01

WYOMING

Sheridan ARC. Meets every Sat. at Bubba's, 7:30 a.m. exit 23 off HYW I-90, Sheridan, WY. Club call: W7GUX, 146.22/82. Info: G. Roelfsem, K7GR 8/01

University ARC. Meets 1st Tues./monthly, 7:30 p.m., Univ. of WY, Engineering Bldg., rm. 2100, Laramie, WY. 146.01/61 12/00

NATIONAL

Bicycle Mobile Hams of America. 46 states/6 nations membership. Annual Forum at Hamvention. Info, sample newsletter, e-mail address to: hartleyal@aol. com or, SASE to BMHA, Box 4009-W, Boulder, CO 80306-4009. 2/01

The Youth Forum

With the popularity of the "Survivor" show on television this season, a clever thing for a creative teacher to do would be to capitalize on the idea in the classroom.

I've been teaching "Introduction To Ham Radio" to 6th, 7th, and 8th graders for over 20 years. Every term I like to start the 15 classes I have with some outrageous event or project that will really get them excited. High motivational activites are a necessary part of every teacher's repertoire today.

I've used the survivor game before and the kids like it a lot. I divide the class into two or three teams depending on the group. A captain is selected who hands out sheets that I've printed up called Mayday Mission.

The children have to brainstorm with each member on their team to come up with a ranking for the items listed in the chart from the most to the least useful if they were stranded on the moon. The applications to the radio program are numerous. I usually wind up referring back to this activity many times during the term when we speak of communications, emergencies, fox hunts, field day and so on.

After ample time is spent in discussion and research (depending on the age group) the following can be presented after each team has come up with their own rankings and reasons. The NASA ranking would be:

1. Two tanks of oxygen	Necessary for breathing
2. Five gallons of water	Necessary for survival
3. Stellar map of moon's surface	Means of finding directions
4. Food concentrate	Supplies necessary nutrition
5. Solar-powered FM transceiver	Could transmit a distress signal and help in communicating with the mother ship
6. 50 feet of nylon rope	Useful in securing injured crew members, helpful in climbing
7. First-aid kit with injection needles	Helpful in treating injuries
8. Parachute silk	Provides shelter from sun's rays
9. Self-inflating life-raft	Carbon dioxide bottles can be used for propulsion across chasms
10. Signal flares	Could be used for distress call when ship is in sight
I I. Dehydrated milk	Could provide necessary nutrition
12.Portable heating unit	Provide's warmth on the dark side of the moon
13.Magnetic compass	Useless on the moon
14.Box of matches	Little or no use on the moon

Here are the items to be ranked: parachute silk, two tanks of oxygen, food concentrate, box of matches, portable heating unit, dehydrated milk, 50 feet of nylon rope, five gallons of water, solar-powered FM receiver-transmitter, stellar map of moon's surface, first-aid kit with injection needles, signal flares, magnetic compass, and a self-inflating life-raft.

This activity has all the necessary ingredients for a teacher to launch interesting and educational units and lessons for the rest of the school term. Always remember that children learn best when they are involved and when they are having fun.

If you try this exercise with a group of youngsters, let me know how well it went. It can be modified for any age group. Have fun!

How many USA counties?

This column is about Amateur Radio county hunting — making radio contact with the USA counties. Typically this means the pursuit of *CQ* magazine's USA County Award (USA-CA) or the Mobile Amateur Radio Award Club's (MARAC) county awards. In order to successfully contact all USA counties, *CQ* magazine and MARAC require contact with 3,076 counties. But what's so magical about the number 3,076? One would think that this is actually the number of USA counties; after all, that is the requirement to achieve the USA-CA for All Counties. But, are there really 3,076 counties?

First let me digress. Here's a little pop quiz. What's the difference between county hunting and country hunting? Simple — the letter "r." Get it? But there's more to it than that. Sure, counties are different than countries for lots of reasons. But the difference is how the ARRL goes about counting countries for its DX Century Club (DXCC) award, and the way *CQ* magazine goes about counting counties.

One would think that counting countries is relatively simple. The ARRL could simply refer to the United Nations list of countries — but of course, not all countries are members of the United Nations. The ARRL could consult the CIA *World Factbook*, but they don't. Rather, the ARRL has an awards committee. In 1999, the ARRL awards committee discussed the DXCC awards in great detail and published new rules for 2000 — allowing several new countries, e.g. Chesterfield Islands. The bottom line difference is ARRL counts 'entities' as DXCC countries. They use specific rules to determine the number of entities (not necessarily countries) that count for DXCC.

Are there 3,076 counties?

The answer is — it depends. It depends on whether you count the actual number of counties, use the book answer, the government's answer or my answer. Here's the difference. The number of actual USA counties is 3,006, the book answer (*CQ* magazine's rulebook) says the number of USA counties is 3,076, and the Government's answer is 3,141. Before I tell you my answer, I'm going to give you a lesson on:

The history of counties

I refer to the U.S. Department of Commerce (Bureau of the Census) publication, "Geographic Areas Reference Manual" found at the following web site: www.census.gove/geo/www/garm.html. The GARM describes in great detail the basic geographic entities (there's that word again) the Census Bureau (CB) uses for data tabulations. Chapter 4 of the GARM discusses the CB's policy on states, counties, and statistically equivalent entities (whoa — what's that? Hold on — I'll get to it.)

The county originated as an administrative unit in England and early settlers brought the concept with them to the colonies. Throughout the colonial period, counties evolved as units of local government or administration. In much of New England, the compact pattern of settlement favored the town as the local governing body; the county, a geographic grouping of towns, tended to be a legal entity that existed for judicial rather than general governmental purposes.

In the South, with its dispersed farms and plantations, the county became the most important unit of local administration; towns (or townships) generally did not develop as local, self-governing units in the New England tradition.

In the Middle Colonies of New Jersey, New York, and Pennsylvania, counties were more important units of government, but they also contained townships (towns in New York), that had varying degrees of recognition and significance for some local governmental functions.

The various censuses of the U.S. have recognized these governmental units since the earliest enumerations. The number of counties (to include Louisiana parishes) increased by more than 2,000 from 1790 to 1900. Here is the number of counties/parishes in five censuses from 1790 to 1940: 292, 1,621, 2,247, 2,713, 3,041, 1940, 3,070

The actual number

Well, the number of counties is absolute. There are 48 states that have counties as subdivisions of their state. Louisiana's parishes can't be counted since they're parishes, not counties. Alaska does not have counties either; they have boroughs. So, the actual number of USA counties is 3,006.

The rule book

CQ magazine's (*CQ*) USA-CA Awards Custodian has an interesting way of computing the number of counties. The Award Custodian has calculated the number of counties this way for some time. For 48 states, counties are the primary administrative divisions. There is an exception; Louisiana has 64 parishes, so *CQ* includes parishes, since parishes are similar to counties. So that's 3,070. So where do the other 'counties' come from?

CQ counts the independent cities from Missouri (St. Louis City), and Maryland (Baltimore City). Independent cities are governmentally independent of the county organization. That makes the total 3,072. Interestingly, *CQ* does not count the 40 independent cities in Virginia or the one independent city in Nevada (Carson City). Why they count independent cities in 2 states, but not the 3rd and 4th states is a mystery to me. Surely, if some independent cities are counted, then they all should be counted.

For many years, *CQ*'s policy on the independent cities in Virginia and Carson City was contacts with an amateur in the cities counted for one county or in some cases, one of the adjoining counties. At one time, *CQ* ruled that contacts with Virginian independent cities did not count for any county. They have since rescinded that rule and have returned to allowing credit for a single county or one of several neighboring counties.

The last 4 'counties' come from Alaska. *CQ* counts the four Judicial Districts of Central (4th), Northwestern (2nd), South Central (3rd), and Southeastern (1st).

Oddly enough, most Alaskans don't know what Judicial District they live in. They know the city they live in and they know the borough, but some do not know their Judicial District. Speaking of boroughs, the American Heritage Dictionary has something to say about boroughs. It defines a borough as "a civil division of the state of Alaska that is the equivalent of a county in most other U.S. States." For now, forget about boroughs, *CQ*'s answer is 3,076 counties.

So what about MARAC's rule book. As far as I can tell, MARAC has always followed *CQ*'s lead. MARAC states "the official list of counties to be used in certifying all applications will be the actual counties in existence on the date that the award application is received by MARAC." (The same list accepted for USA-CA by *CQ* Magazine). Therefore, the county hunter awards offered by MARAC are for the magical number of 3,076 counties.

The government's answer

The government's answer is 3,141 — this includes "statistically equivalent entities." The difference is Alaska, Virginia, Nevada, and the District of Columbia. Alaska has boroughs for the organized portion of its territory. The CB starts by counting counties, parishes and boroughs as equivalent counties. However, a large part of Alaska is not in any organized borough, so the state and the CB cooperatively have subdivided the unorganized portion of Alaska into census areas for the purposes of presenting statistical data. Thus the government's answer includes the 16 Alaskan boroughs and 11 Alaskan Census Areas.

The CB counts the independent cities in Maryland and Missouri, but also counts Carson City in Nevada and the 40 independent cities of Virginia. For both legal and statistical presentation purposes, these independent cities constitute primary administrative divisions of their states. So, the government counts 43 independent cities as statistically equivalent entities — counties. The District of Columbia has no primary administrative divisions; the CB treats its entire area as the statistical equivalent of both a state and county.

If you're interested in learning more about the government's method of calculating counties, you can read the GARM mentioned above. Another resource is the Federal Information Processing Standard Publication (FIPS PUB) 6-4 (info is available at www.nist.gov/iti/fipspubs/fip6.4/htm, which provides the names and codes that represent the counties and other entities treated as equivalent subdivisions. Lastly, you can view the entire list of counties and statistically equivalent entities with FIPS codes at: www.census.gov/population/estimates/fips.txt. For statistical purposes, each state and county is given a numeric code (2 digits for the state and 3 digits for the county). An example of a FIPS code for Autauga County, Alabama is 01001 (Alabama = 01, and Autauga County=001).

To recap, the CB counts 3,006 counties, 64 parishes, 43 independent cities, 16 boroughs, 11 census areas, and DC. Total number of USA "counties" is 3,141.

My answer

So how many counties are there really? What's my answer? To summarize, there are actually only 3,006 counties in the U.S. County hunters could simply hunt 3,006 counties and consider their task complete. Unfortunately, no organization offers awards for only 3,006 counties. Also, 3,006 counties do not cover the entire USA land area.

Louisiana Parishes should be added because parishes are just like counties. So now the answer has climbed to 3,070. But if you include Parishes as county-like entities, then Alaskan boroughs must also be included. Dictionaries, encyclopedias, and the CB say boroughs are like counties in other states. So, now the answer is 3,086.

There were probably good reasons *CQ* decided to only include Judicial Districts as the county entities of Alaska. For one thing, the four Judicial Districts cover the entire Alaskan land area. Perhaps their goal was to make the award more achievable and not scare away award hunters from pursuing USA-CA. The interesting thing is many amateurs are quite satisfied with achieving 500 counties and receiving the basic award with no seals. However, if we decide that boroughs are county equivalents, then what do we do about the rest of Alaska? To cover the entire state, we have to include the unorganized boroughs or 11 census areas. Our total is now 3,097.

Before we decide what to do about independent cities and DC, consider the following question. When the ARRL offers the worked all states award for contact with all 50 states, is the entire USA land area captured by counting 50 states. The answer is "Yes!" Okay, so that was pretty easy; all our states are called states. So what?

Subdivisions of states must include counties (parishes and boroughs) and "statistically equivalent entities." Like adding the 11 Alaskan census areas, adding the 43 independent cities and the District of Columbia isn't all that tough of a decision. The decision to count all these cities and the District should be decided by one question. Is the entire USA land area captured if the independent cities and the District are not counted? Since independent cities and the District are not considered part of counties, the answer has to be a resounding "No!" Therefore to capture the entire USA land area at the 'county level' the correct number of counties is 3,141. This number includes counties, parishes, boroughs, independent cities, census areas and DC.

So, you say, "Well, you work for the government — you have to agree with their number." You've heard the phrase, "good enough for government work" haven't you? This phrase has become synonymous with a halfhearted effort and not a very high quality product. But did you know this phrase began in the midst of World War II, and it meant the highest quality? People put so much of themselves into helping to win the war effort that "good enough for government work" was a mark of great pride, it was the very best that you could possibly expect.

Well, I believe the Government has given us the very best that we could possibly expect and we, county hunters, should take great pride in hunting 3,141 counties, not the magical number of 3,076 counties. I believe *CQ* and MARAC should also take pride in the government's method of counting counties. Change is rare; however, the CB conducts an annual Boundary and Annexation Survey to determine any county changes. These changes are documented in FIPS Pub 6-4; the government document *CQ* and MARAC should reference to determine how many counties we hunt.

And in conclusion

Yes, the various county hunter awards would be tougher. Maybe fewer county hunters would accomplish USA-CA endorsed for All Counties. Maybe fewer county hunters would continue to contact all counties 6, 7, 8, even 9 times. Maybe it would put a little more integrity into *CQ* and MARAC's awards programs. Maybe you think I'm wasting a lot of valuable newsprint. I'd like to hear your opinion and just maybe, so would *CQ* and MARAC. Until January, happy hunting! 73 Ace N3 aha!

— Ace Jansen can be reached via e-mail at: jansens@tidalwave.net.

QCWA can be your technical specialist pool

First of all, I want to publicly apologize for having failed to give proper credit to Jack Troster, W6ISQ, for the origin of the phrase, "Be One of Us, the Proud, the Creative, the Many, the Elite, the QCWA." I erred in not doing as much research as any good journalist should, and attributed this origin of this phrase to my Board of Directors colleague and past QCWA President Jack Kelleher, W4ZC, who indeed used it and often added "..the Innovative and the Inquisitive" to it. But it is Jack Troster, one of the great *Semper Fi*...corps guys to whom credit should be given, and I gladly do so now and for all time.

Now, on to my next concern for the members, friends, and prospective members of the Quarter Century Wireless Association: the huge pool of highly qualified technical specialists who make up the majority of QCWA members, and whose legendary skills are available for the asking to the Amateur Radio fraternity.

Just a few months ago it was my privilege to watch from the sidelines as a new West Central Florida section of the ARRL was proposed and then created by a majority of the amateurs in the 10 counties which surround the Tampa Bay area. In observing that process, I discovered that one of the Section resources was a small pool of licensed Amateurs who could be – and were, in this case – designated as "ARRL Technical Specialists." Upon further inquiry, I discovered that almost anyone who has acquired a significant body of knowledge and/or skills related to Amateur Radio was eligible for appointment within the ARRL organization for this role and the title associated with it.

Furthermore, there really are no already-defined technical skills areas into which qualified Amateurs must fit in order to serve their fellow Amateurs as a Technical Specialist. In fact, the new West Central Florida Section already has 15 such persons appointed for their expertise in such diverse areas as antennas, transmission lines, APRS, Linux, micro-controllers, RFI, RF safety, repeaters, packet/digital modes, satellites, computers/networking, TCP/IP data, and general equipment building and assembly.

Then I found out that with each official appointment which receives the approval of the Section officer cadre, and the ARRL of course, based on the background and experience and skills of the appointee, that the ARRL provides, free of charge to the technical specialist, a basic library of the ARRL publications related to their technical specialty. Wow!

And then I thought of the vast number of QCWA members, all of whom have had at least 25 years of Amateur Radio operating experience, and many, many of whom are simply without peer in a multitude of technical areas. We are the Elite in terms of time at the key and the mike and the elevated radiators. So I began to imagine the help that QCWA members might provide to the newer Amateur, the recently-graduated Technician, General or Extra, in all of the areas of expertise related to the fundamental skills required for properly operating equipment that these graduates now find themselves licensed to use. With well over 8,000 members in the USA, Canada and abroad, we surely have a tremendous pool of very smart war-horses who know which end of a soldering iron normally gets hot. After 25 years, you've usually made all of the simple mistakes and a few of the complex ones, and learned from their consequences (which reminds me to remind you, that no one can really learn anything from their mistakes. If you could learn anything from making mistakes, then you ought to make as many of them as possible and thereby become smart. No, my friends, you learn from the *consequences* of your mistakes). And

25 years of learning experiences from the consequences can be a pretty useful collection of "what not to do," and probably an equally good collection of "what to do's" as well.

Furthermore, a high percentage of QCWA members know a lot about electronics and the behavior of electronic devices based upon their formal education therein. Starting with an initial interest in that field., many have made a career in it, with professional employment, patents and inventions to show for that knowledge. Others have been military, college, and university educators in electronics. QCWA attracts the best and the brightest, and as a group stands far about most other groups in its technical knowledge and experience. QCWA members represent an extensive pool of technical specialties as well as intellectual and pragmatic know-how. So here is my challenge to the QCWA membership: Locate the name and address of your ARRL section officials (from *QST*, of course) and begin the simple process of qualifying yourself as a "technical specialist." You'll not only get to wear the distinctive "blue" badge associated with that appointment, but you'll get the goodies from the ARRL library of publications that go along with it. And your name and your skills will then be publicized within the ARRL section where you reside. And then your "elmering" will have an official seal of approval attached to it. Of course, no Amateur Radio operator need such approval to be an "elmer" and advice-giver to any other person asking for help. And the QCWA has had a long-established reputation for being the first and the fastest to demonstrate that sort of enthusiasm for our mutual hobby. So either way – officially or unofficially – the QCWA has the opportunity to continue a tradition that is central to that public interest which makes our Amateur Radio frequency allocations possible. So do it! Do it before the end of the year, or do it no later than by the time Spring comes back to your part of the world. And by the way, I am myself a technical specialist appointee, so I've been there and done that, and have an ARRL blue badge to prove it. Join me, please, in doing the same.

My second challenge is to those who have not yet reached that magic 25th anniversary of licensure as an Amateur operator: Hook up with the technical specialists that the ARRL has identified, through its field organization, in the areas in which you'd like some helpful advice. Ninety-nine per cent of the time they know what they are talking about. And some of these specialists will be QCWA members — which is certainly one qualification, since 25 years of experience is nothing to sneeze about.

Then when that day comes when you are eligible for becoming One of Us, the Proud, the Creative, the Many, the Elite, the Innovative, and the Inquisitive, the QCWA – that's the day you'll already know, among your Amateur Radio friends, a few of us who have made a difference in the promotion and preservation of our great hobby and the cornucopia of skills associated with the enhancement and expansion of it.

The QCWA Home Page is at http://www.qcwa.org and once there it is a simple click or two to learn more about the QCWA, or download an application, or ask for help in locating the QCWA Chapter closest to you. Meanwhile, 73 de KJ9N Alan

The Fort Smith QRP P-TiCK keyer and paddle kit

With CW the mode of choice for the vast majority of QRPers, news of advances in keyer and paddle design and technology always get the attention of the low power community.

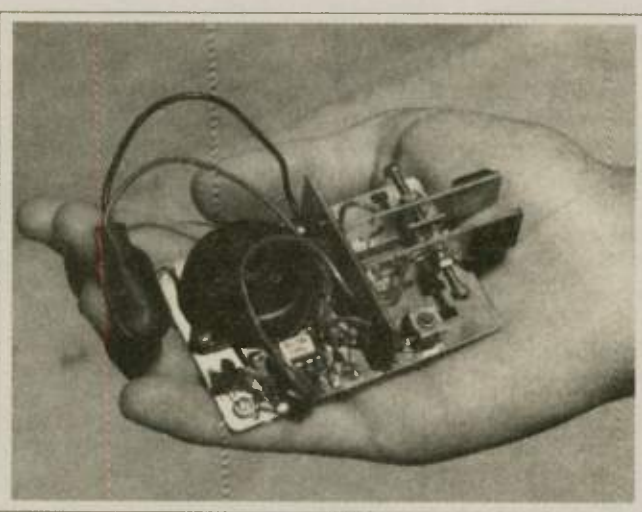
That's certainly the case with a great little keyer and paddle kit being offered by the Fort Smith (AR) QRP Group. For just $10, plus shipping, it's a superb, high performance bargain.

Finish this project, and you'll earn bragging rights to say "KEYER ES PADDLE HR ARE HOMEBREW." Now, how many QRPers can make that claim?

Proceeds from the P-TiCK kit will help underwrite the organization's sponsorship of a QRP forum held each spring at ArkieCon, according Fort Smith QRP's Jay Bromley, W5JAY.

The P-TiCK is put together in two phases: first the paddle, then the electronic keyer.

To form the paddle, the kit includes pre-cut pieces of doublesided printed circuit board that the builder drills and then solders to form an iambic configuration. Nicely illustrated and painstakingly detailed instructions tell how.



The Fort Smith QRP Group's P-TiCK is a perfect kit for beginning homebrewers and yields a great paddle and keyer to boot.

When the paddle is finished, the constructor then adds electronic parts provided for a classic TiCK-1, the remarkably simple and extremely popular electronic keyer that put Rochester, NY-based Embedded Research on the map.

The 8-page instruction manual (on 8.5 X 11-inch paper) walks homebrewers step-by-step through the process. Manhattan-style construction techniques are used to surface mount the TiCK-1 keyer to the paddle main frame.

If you've never built a QRP station accessory before, the Fort Smith QRP Group's P-TiCK is a perfect entré. You'll not only get a primer in electronic homebrewing, but also in physical construction techniques that have become so popular with the enclosure kits accompanying such units as NorCal's W6JJZ BLT antenna tuner, the NJ-QRP Club SOP Receiver, and the NorCal SMK-1 transceiver. The same basic techniques for soldering kit housings apply when building the P-TiCK iambic paddle.

The P-TiCK kit arrived at KI6SN in an envelope containing the manual and a plastic baggie filled with the PC board material used to make the paddle and electronic keyer parts.

After doing a quick inventory, the builder is directed to start on the paddle. There are five pieces of pre-cut PC board material to be drilled and soldered. In addition to a 2x3 inch base, there is a small post (serving as the contact for the keyer paddle arms), a 2x.75-inch "fence" used as the plane on which the keyer's paddles are rigidly soldered, and the paddle arms themselves.

The "fence" also serves as the feed-through passage for connecting the TiCK-1 keyer to the paddle arms.

The iambic paddle is a modification of a single-arm design by Wayne McFee, NB6M. Doug Hendricks, KI6DS, of the NorCal QRP Club cleverly developed the P-TiCK kit's iambic keying scheme. The end product is a paddle with the action and "touch" of many commercially produced paddles commanding lofty prices.

We begin building the paddle by scoring with a hacksaw a 5/8" square piece of PC board that will serve as the base for the TiCK-1's chip socket. Making thin cuts through the PC board foil divides the little board into eight sections — one for each pin of the TiCK-1 chip's socket. A scoring gridiron pattern is shown pictorially in the manual.

Next, holes are drilled in the "fence" and paddle arms. Silver solder is provided to coat each side of a 3/8"x5/8" post that serves as the contact point between the paddle arms.

The post is soldered in the center of the keyer's base. Then the "fence" is positioned to allow the paddle arms (when added) to protrude by about a half inch beyond the end of the paddle base. Making the paddle arms is a quick study in basic mechanical engineering. Soldering unaltered pieces of solid PC board strips would result in paddle action much too rigid for most CW operators. And it would place too much strain on the joint where each paddle is soldered to the "fence." To get around this problem, McFee's design incorporates a 1/4" hole in the paddle arm for the express purpose of adding flexibility to the arm action. The paddle arms bend beautifully at the point of this 1/4" hole.

Each of the arms in the P-TiCK also has this feature. The flex-hole, as we'll call it, gives this little keyer paddle great action. 5/8" long 4-40 contact screws with a head socket are then fitted to the each paddle arm through eighth-inch holes. Brass 4-40 nuts come with the kit, and are soldered directly to the side of each paddle arm. Through the soldered brass nuts, the screws can be adjusted for the paddle spacing the CW operator prefers. Once in place, the screws are tightened in place with a second 4-40 nut. After the paddle portion of the P-TiCK is completed, it's time to add the TiCK-1 keyer chip and a handful of other components to complete the electronic keyer. Mike Fitzgibbon, NØMF, of the Iowa QRP Club, designed the Manhattan-style TiCK configuration.

The TiCK-1 comes with a large piezo transducer to audibly monitor keyer functions. Settings are made by going through a menu of options accessed with a small pushbutton, and then executed via the keyer's paddle. For example, press the button and you'll hear the letter S (ditditdit), electronically opening the keyer chip to allow speed adjustment. Press the dah paddle and the speed increases. Press the dit paddle and it slows down. Simple.

The menu includes a key-down TUNE function; PADDLE, for choosing which arm will produce the dits and which will produce the dahs; AUDIO, for turning off the piezo transducer during normal operation, STRAIGHT KEY for straight key operating; MODE, for choosing between iambic A or B; and KEYER, for releasing the pushbutton and returning to normal operation.

With only eight external components around the TiCK-1 chip, you can build the keyer in practically no time.

And an additional benefit of the TiCK-1 is that the keyer can be upgraded by purchasing any TiCK chip in Embedded Research's excellent series of higher performance options. Simply remove the TiCK-1 from its socket and plug in the TiCK-2, 2B, 3 or 4.

With the exception of the 9-volt battery needed to power the P-TiCK, the paddle/keyer's overall footprint is just 3.5" deep, 2" wide and .75" tall. It can comfortably find a home at the QRPer's operating position, or could even be built permanently into a trail-friendly transceiver for backpacking. That's one less operating accessory to have to deal with when you're heading into the field.

For a photograph of the P-TiCK riding atop an Altoids tin as an operating base, go to the NorCal internet web site: www.fix.net/~jparker/norcal/ftsmith/ptick.htm.

The P-TiCK keyer kit, which includes all parts needed to build the iambic paddle and the TiCK-1 keyer, is available from the Fort Smith QRP Group for $10 plus shipping ($2 to U.S. and Canada; $4 to DX).

To order, write: Jay Bromley, W5JAY, 9505 Bryn Mawr Circle, Fort Smith, AR 72908. Make checks or money orders payable to Jay Bromley.

— Richard Fisher, KI6SN, can be reached at: 1940 Wetherly Way, Riverside, CA 92506 or via e-mail: ki6sn@aol.com.

Carl Luetzelschwab, K9LA

Distortion and flutter on 10M LU stations

My July column offered an explanation as to why LU stations on 10M early in the evening of 22 September of last year had distortion and flutter on their signals. My "best guess" was additional ionization at F region heights in the area of the South Atlantic Anomaly (SAA). This column brought forth two e-mails.

The first e-mail was from Dave Evans. He's with the Space Environment Center (SEC), which is a part of NOAA (National Oceanic and Atmospheric Administration). NOAA and the U.S. Air Force jointly operate the Space Weather Operations Center. This is where the tiger plots (relative intensities of energetic particles), pmaps (auroral activity extrapolated from satellite data), and a host of other information comes from that I've referenced several times. Dave and Sue Greer (also with SEC) have been extremely helpful whenever I've needed historical or additional data.

The thrust of Dave's e-mail was that he isn't convinced the South Atlantic Anomaly is typically a region of that much enhanced ionization at E and F region heights (in other words, not much more than what's normally there). He says the charged particles in the inner Van Allen belt don't undergo a lot of scattering that would bring them down into the atmosphere to produce added ionization.

He backed this up by analyzing data from the NOAA-15 satellite. He first looked at electron observations for all of 1999 to get a baseline average picture. In a two degree (latitude) by five degree (longitude) box in the SAA centered on 27 South latitude/57.5 West longitude, the average count rate of 30-2500 keV magnetically trapped electrons (those that do not get down to F and E region heights) during 1999 was around 9,000 counts per second. For the same energy electrons that might have access to F and E region heights, the maximum count rate was only around 300 counts per second. He also looked at 100-2500 keV electrons and 300-2500 keV electrons, with similar trends. He further speculated that the count rate of 300 for scattered 30-2500 keV electrons was really due to 16-70 MeV protons penetrating the shielding around the detector.

Next Dave looked at the same data on the evening of 22 September of last year, when the distortion and flutter on the 10M LU signals occurred. He saw the count rate of 30-2500 keV magnetically trapped electrons increase to between 54,000 and 62,000. But the count rate for electrons that might access F and E region heights was essentially unchanged.

To summarize all of this data, there are a lot of energetic particles up high in the SAA under storm conditions, but they do not scatter down to F and E region heights to cause any additional ionization at these heights.

So what does all this mean in relation to the cause of the distortion and flutter on the 10M LU stations? It means my "best guess" was probably wrong. Let me reiterate that the SAA may not be the cause of the LU problem, but it still is a problem area for satellites. If the SAA wasn't the cause of the LU problem, what other mechanism could be responsible? That's where the second e-mail comes in.

The second e-mail was from Johan Svanholm, N3RF. He related a recent problem he had with sending traffic through the Inmarsat satellite that serves the Persian Gulf area. He related that all day there was noise and low signal levels. He said he finally got the traffic through in the 2-4 a.m. time period. He asked if I could offer any information about this problem.

A little digging on my part showed the Inmarsat satellite in question (F1 of the Inmarsat-3 series) operates in L-band (around 1.5GHz) and is in a geostationary orbit above the equator at 64 degrees East longitude. That puts it right over the Indian Ocean.

That location over the equator, the local times involved, and the fact that we're near the peak of Cycle 23 rang a bell. A quick review of section 8.5 in Ionospheric Radio by Kenneth Davies (Peter Peregrinus Ltd, London, 1990) confirmed what I was thinking — scintillation could be the source of N3RF's problem.

Ok, what is scintillation? It's a variation in the amplitude, phase, polarization, and/or angle of arrival of an RF signal passing through the ionosphere. All of this can cause severe fading, and this effect has been observed from 20 MHz all the way up to 10 GHz. Think

Propagation

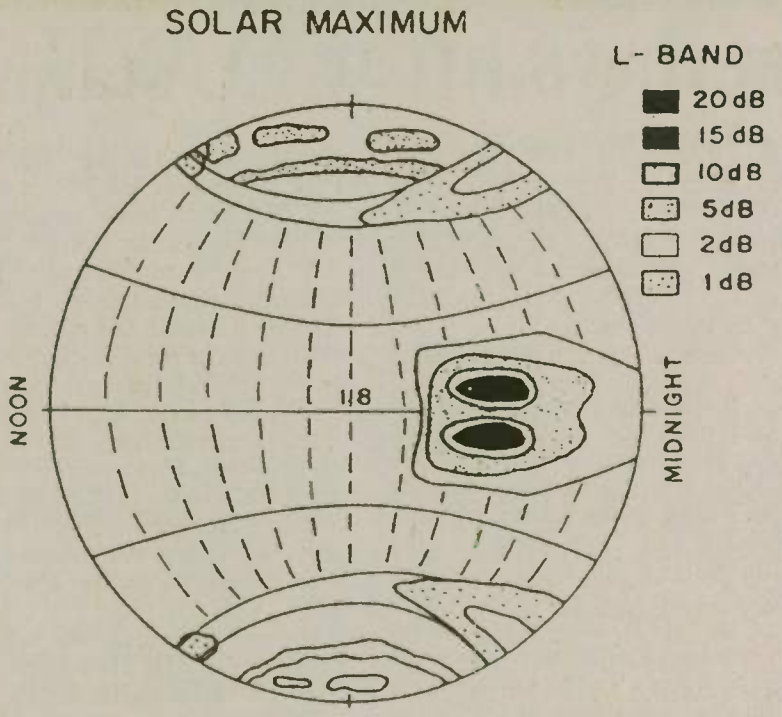


Figure 1 Worst case fading depths of scintillation at L-band for high SSN (from Basu, et al, Radio Science, 23, 1988, p 363).

about that for a moment — we went to satellites to get away from the effects of the ionosphere. Sure sounds good on paper, but in the real world the ionosphere still can have an impact.

Figure 1 is a reproduction of Figure 8.30 in Ionospheric Radio. It shows the worst case fading depths due to scintillation at L-band frequencies during high sunspot numbers. Note that the effect is most prevalent at solar maximum from about 7 p.m. local time to a little after midnight local time along the equator, with the most sever fading occurring from about 8 - 10 p.m. local time at the electron density peaks on either side of the geomagnetic equator (see Figure 1 of my October 1998 column). I passed all of this information on to N3RF, as it seems to fit his scenario.

This brings us back to the LU problem. If it wasn't the SAA that caused the distortion and flutter on the 10M LUs, then perhaps it was scintillation on that part of the W9-to-LU path in the equatorial region. The most likely cause of this scintillation would be equatorial spread F. We'll take a look at this in more detail in next month's column.

The golden days after WWII

Ken Claar, W7LAR

The days right after the Second World War were golden days for a young Ham. I got my General license in April of 1947. I remember going down to the Seattle FCC District Office as a 15-year-old kid. All of the big desks and tables and cabinets in the office were dark, oiled wood and for some reason that made it very scary. I was really nervous because I had never been in a big office like that before. The FCC guys were very pleasant and helpful and I passed the General exam and the 13 wpm code test the first time round. At that time I was one of the youngest Hams in Seattle.

All kinds of WWII surplus equipment was pouring into Seattle and into Ham shacks around the city. Much of it had never been used. My brother Don, at that time W7JRC, and I took advantage of the bargains and filled our little basement Ham shack with "stuff."

I had an Elmer named Johnny Gruble, W7RT (SK). He and his brother would stand in line overnight at the War Surplus Administration office to buy a ton of war surplus tubes and other parts for $75. Their parents had a little Italian-American corner grocery store and on one side of it was a small garage. Johnny set up in this garage and sold new tubes for $.25 each and sold all sorts of other good stuff at very low prices. I bought three 40-meter crystals in a ten-crystal holder for a buck and was on the air. I had another Elmer, Joe Criswell, W7CE (SK), who was an old-timer who had worked for the Alaska Communications System during the war. Somewhere along the way he had lost a leg. Joe was a laid-back 75-meter phone Ham. He would lay on a cot in his Ham shack and talk to all his old cronies holding his Astatic D-104 mike on his stomach.

The ACS in those days, like a lot of other government agencies, had the policy of changing all of the tubes in their equipment at regular intervals, whether they were bad or not. So Joe took home lots of used but good 6L6s and 807s and gave me a bunch of them. I built a 6L6-807 transmitter for 40 and 20 Meters and used a Hallicrafters S-20R receiver. Our very first receiver was a National SW-5. I worked all states and all zones with that rig. Somewhere we got ahold of a Gonset converter for 10 Meters and so I revamped my rig to work on 10 Meters. Ten was wide open in those days and there were dozens of "Gs" on phone up on the high end of the band. My best Elmer, though, was my brother Don, now K6DGK, who helped me a lot and didn't complain too much when I sort of borrowed some of his stuff to use for my rigs.

Don and I built a 3-element 10M beam out of some surplus aluminum tubing. We cut down a small tree and skinned it and put it up outside of the Ham shack. It was turned by running out of the garage door, untying two ropes, pulling the beam to the right direction, retying the ropes and then running back into the shack and getting back on the air. I also had a Hi-Q HY-75 parallel rod oscillator and worked several Hams on two and a half meters. I used a super-regenerative receiver that W7CE had built and given to me.

My idea of heaven at the time was a place called Sternoff Metals. It was a scrap metal yard down by the docks in Seattle. They had bid on tons of electronic equipment, mainly for the scrap metal that was in it. The first time I went there they had a pile of surplus military equipment that was stacked 30 feet high. There were transmitters, receivers, test equipment all being sold by the pound. Unfortunately, as a 15-year-old kid I didn't have enough money to buy much, even at those prices. However, my brother and my parents got me a BC-312 for my birthday and after I modified it and built a power supply, it worked great. I worked lots of DX using that rig.

I finally got into the big time when W7CE gave me a pair of 811s. I built a rig that ran about 300 watts. My friends still remember how the plates of those tubes glowed cherry red when I was keying my transmitter. They never failed and kept me on the air until I left to go into the Navy as an Electronic Technician during the Korean War. I got to be DX in 1952 by being stationed at the Navy Transmitter Station at Barrigada, Guam. There we operated a club station, KG6GX. It used a BC-610 transmitter and a HRO receiver, as I remember. We had a 3-element beam on a 30-foot tower and spent many happy hours on the air. We ran lots of phone patches so the sailors and airmen could talk to their families stateside. I also spent time teaching code to sailors interested in Amateur Radio.

After the Navy, and partly due to my Ham training I was able to get a EE degree from the University of Washington. Then Amateur Radio took a back seat while I raised a family and had a career. I lost my old call, but thanks to the vanity call program I was able to get it back when I retired and moved to Idaho. Amateur Radio has changed a lot since I first started in 1947, but it's still a great hobby and I believe that the latest changes in licensing will be beneficial to all of us in the long run. I even bet that some of the "5 wpm" Extras will be listening to the CW bands and catch the mystery of it all and become avid key punchers.

The G5RV on 20 Meters

The G5RV is a mutiband center-fed antenna that will operate on all HF bands from 3.5 to 28 MHz. In spite of what you may have read elsewhere you have to use a tuner with the G5RV on all bands except 20 Meters. That's what Louis Varney, G5RV said.

A reader of Kurt's column wants to put up a G5RV to use on 20 Meters. His first question is: The formula gives a length (of the flattop) of 102.57 feet. But all the articles recommend 102 feet.

Here's why: G5RV in his article uses the formula for long-wire antennas (the G5RV is 3/2 wavelength long on 20 Meters) and gets a length of 102.57 feet. Then, for no reason at all that Kurt can figure, he says lets just make it 102 feet since we're going to use a tuner anyway.

But Kurt's reader is not planning to use a tuner because he's just going to use it on 20 Meters where it is resonant. So he should use 102.57 feet. This puts resonance in the center of the band so it will work over the whole band with lowest possible SWR. That's where the 14.15 comes from in the formula.

The reader wants to work on the CW portion of the band centered on 14.05 MHz so he can replace the 14.15 in the formula with 14.05. He'll then find the proper length to be 103.3 feet.

If the U.S. were not a backward country still using "Ye Olde English" measurement system we wouldn't have to convert that 103.3 feet to 103 feet 3-5/8 inches to measure the wire. We would have had it in metric in the first place and schoolkids wouldn't have to study fractions anymore. Of course, that may never happen.

The balun ratio

Now that our reader has his 103-ft three and 5/8 inch flattop measured, he next needs to measure the 34-ft 450-ohm ladder line. This is a halfwave matching section going from the antenna center to the 50 ohm coaxial cable that goes to the transmitter.

The reader says an article he read says to use a 1:1 balun to connect the ladder line to the coax. Why, he wants to know, isn't it a 9:1 balun going from 450 ladder line to 50 ohm coax?

Krusty Old Kurt can't remember how many times he's had to answer that question. This probably is the most widespread technical misconception in Amateur Radio. Kurt wants you to repeat after him: "You don't necessarily see 450 ohms at the end of a 450 ohm line — You probably won't see 450 ohms at the end of a 450 ohm line — The impedance you see at the end of a 450 ohm line depends on what is connected to the other end and on the length of the line." If you can remember those sentences Kurt assures you it will save you a lot of grief in years to come.

The 450 ohm line in the G5RV is a good example. On 20 Meters it's a halfwave long electrically. A halfwave line always shows you exactly what is connected to the other end. In this case the other end goes to the antenna that G5RV says measures 90 ohms. So what you see at the bottom end of the line is 90 ohms, not 450 ohms. If you used 90 ohm coax to the transmitter a 1:1 balun would be perfect. This would give 1.0 SWR on the line but the transmitter would see the 90 ohms at the other end of the line, not the 50 ohms it was designed for. So you haven't gained anything.

Don't try to find 90 ohm coax. It is expensive and won't take much power. The most common type of 90 ohm coax has a center conductor of #30 wire. You can't put much power through that.

Stick with good old 50 ohm coax and a 1:1 balun. The SWR on the coax will be 1.8 instead of 1.0 but your rig will load up OK anyway so don't worry about it.

Kurt would like to make sure that you remember that a halfwave line always shows the impedance that is connected to the other end. If we connect 90 ohms resistive to the far end of our 450 ohm line we see 90 ohms at the other end, not 450 ohms. But what if we used a halfwave of 75 ohm twinlead and put 90 ohms on the far end? We would see 90 ohms, not 75 ohms, at the other end. The halfwave line repeats what is on the other end regardless of the impedance of the line we use.

This is *THE* interesting property of the halfwave line. In spite of what you may have read elsewhere there is no other magic characteristic of a halfwave line.

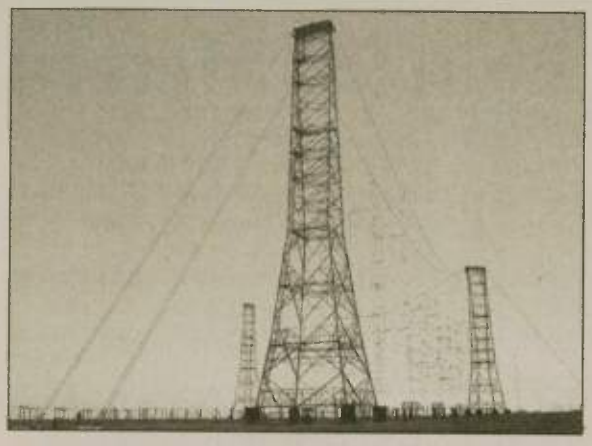
More about the balun

What you have just read was advice to a reader who plans to use the G5RV on 20 Meters only. If you plan to use it as a multi-band antenna G5RV advises against using a balun. The reason: On other bands the impedance seen by the balun will be highly reactive. Baluns don't like that and probably will overheat.

Use a tuner

The G5RV used on bands other than 20 Meters requires a tuner because the antenna plus matching section is not resonant on the other bands. The antenna length was selected to give good radiation patterns — not for all-band resonance. Does this reduce its efficiency? Not at all. There is no magic about a resonant antenna. It is easy to match because it has no reactance but it is no more efficient than a non-resonant antenna.

Kurt heard a conversation on 20 Meters wherein the Ham explained that he couldn't work 80 Meters because his antenna bandwidth was only about 80 kHz down there. Kurt wanted to tell him to get a tuner. Then he could work the whole 80-meter band. The antenna efficiency would be good across the band. The only penalty would be in losses in the coax feeder due to higher SWR. How much loss? A 100-ft line of RG-8 with 1.0 SWR has a loss of less than .4 dB on 80 Meters. With a 10:1 SWR the loss goes all the way up to 1.6 dB. You wouldn't even notice the difference on the air.



In the September issue Kurt asked readers to send in their guesses as to what this antenna is. Those who said it was a Sterba Curtain were correct. Lil Paddle picked five entries at random and they will be receiving their Kurt Caps soon.

Antenna contest

Well, well, well, Kurt certainly had some fun with this contest. Lots of guesses — most of them were correct, but a lot of them were quite a ways off. Kurt has promised Lil Paddle that he wouldn't embarrass anyone with their incorrect guess — at least he won't identify the incorrect party, but he will tell you some of the interesting guesses.

One amateur from the middle of the country guessed "loran antenna." WRONG!

Another Ham guessed "beverage/fishbone." WRONG!

A Ham from the right coast said, "the antenna farm adjacent to the U.S. Naval Academy at Annapolis, Maryland." Also incorrect!

Another couple of guesses were radar antennas in England in WWII. Although Kurt worked on some of those during the Big One, those guesses are also incorrect.

So what was it? Now that Kurt has kept you in suspense for a couple of months, he is considering not saying, just to drag this out for another month. But alas, Lil Paddle won't let Kurt do that, so the antenna is..... a Sterba Curtain! This particular antenna is located at the former Voice of America transmitter site at Dixon, CA. The antenna is no longer in use. Kurt is considering dismantling the monster and moving it to his massive antenna farm.

Lil Paddle did the honors and these are the winners:

Ray Comes, KF4YKD
Robert Hastings, K6PHE
Harry Hyder, W7IV
Don Bostrom, N6IC
Ed Ray, W4NEZ

Did you enjoy that exercise? Well, stay tuned, Kurt is going to do it again! Get a tuner, work DX and be happy!

Contests Chart

Contest	Date & Time	Bands	QSO points	Multipliers	Exchange	Entry Categories	Entries
ARRL Sweepstakes CW	2100Z 4 Nov 0300Z 6 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 licenced, 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 10 Nov 2300Z 12 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 11 Nov 2359Z 12 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 PacketCluster	15 Dec Box 1126 D-74370 Sersheim Germany
OK/OM DX Contest (Czech Republic)	1200Z 11 Nov 1200Z 12 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 11 Nov 1200Z 12 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.
ARRL Sweepstakes SSB	2100Z 18 Nov 0300Z 20 Nov	160-10M SSB	2pt/QSO Work stns once, regardless of band	ARRL Sections Count once, regardless of band	Ser#, Pwr class, ur call, Year first licenced, Section	Single Op: Low power (A), High Power (B), QRP (Q) Multi-op single tx	1mo. ARRL or e-mail to SSPhone@arrl.org
CQ WW DX CW	0000Z 25 Nov 2359Z 26 Nov	160-10M CW	0pt/VE 2pt/NA 3pt/DX	DXCC + WAE countries + CQ Zones	RST CQ Zone	Single Op: All Bands, Assisted, Low power, QRP, Single band Multi-op: Single of multi-tx	1mo. CQ mag. Or e-mail to cw@cqww.com
ARRL 160M	2200Z 1 Dec 1600Z 3 Dec	160M CW	3pt/VE, W 5pt/DX	ARRL Sections + DXCC countries	RST Section	Single Op: High power, Low power, QRP Multi-op	6 Jan ARRL or e-mail to 160Meter@arrl.org
QRP ARCI Holiday Sprint	2000Z 5 Dec 2359Z 5 Dec	160-6M CW	5pt/ARCI member 4pt/non-mbr DX 2pt/non-mbr NA +2000 for home-brew TX +3000 pts home brew RX	US States, Canadian provinces and territories, DXCC entities on each band Multiply the resultant score by the power multiplier" x15 for 0-250mW x10 for 250mW to 1W x7 for 1-5W x1 for over 5W	RST QTH ARCI members will also send their membership numbers	Single Op: All bands, single band, high bands, low bands, portable. Multi-op Multi-tx	30 days N6GA or e-mail to CamQRP@cyberg8t.com
ARRL 10M	0000Z 9 Dec 2359Z 10 Dec	10M CW & SSB	2pt/SSB 4pt/CW 8pt/USA novices/techs worked on CW	Canadian provinces, territories, Labrador, US States, DXCC	RST QTH DX stations will send Ser#	Single Op: Both or single mode, all with High, Low and QRP pwr cats. Multi-op., single tx, mixed mode (one multi-op category)	1mo. ARRL or e-mail to 10Meter@arrl.org

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 http://home.sol.no/~janalme/hammain.html or http://www.sk3bg.se/contest/

FCC backs off repeater interference case

The FCC has issued an opinion in the case of two repeaters operating on the same frequency in Arkansas. Tom Lee, AC5RU was contacted by the FCC on 14 August about a complaint that his repeater was interfering with another repeater using the call sign KD5CYA. Both machines were operating on 146.625 MHz. The complainant said the KD5CYA repeater was a coordinated repeater, while the AC5RU repeater was not.

Mr. Lee submitted evidence of coordination for his repeater, but the FCC countered with letter saying that the coordination of both repeaters was unclear, and suggested the matter be taken before the ARRL mediation and dispute resolution program. — *FCC*

Repeater users threatened

The FCC has issued a warning notice to Gerald G. Dugan, N5OGD for alleged harassment of users of the Key City ARC repeaters. The letter was sent by Riley Hollingsworth, the FCC's chief of enforcement for Amateur Radio. In the letter, Mr. Hollingsworth said, "Information before the Commission indicates that you make threats to individuals over the Key City Amateur Radio Club repeaters during the month of June, 2000 and that you have also not complied with the Commission's identification rule. Information also indicates that you have not heeded requests from the repeater licensee that you not use the repeater."

Mr. Dugan was given 20 days to respond to the allegations or face revocation proceedings of his Amateur Radio license. — *FCC*

FCC questions Technician class licensee

Riley Hollingsworth, the FCC Special Counsel in the Enforcement Bureau, has sent a letter to Dana T. Roper, KE6HDD asking why he, or someone using his call sign has been heard operating in the Extra Class portion of 20 Meters, specifically 14.165 MHz.

Mr. Roper has been heard several times in the area of 14.165 using the call sign XE1HDD/W6. Mr. Hollingsworth stated in his letter, "That band is not licensed to you under your Technician license."

Mr. Roper was warned, "such operation could not only lead to revocation of your license or a monetary forfeiture, but would also jeopardize any future attempts to obtain an upgraded Amateur Radio license." Mr. Hollingworth requested Mr. Roper contact him immediately to discuss the matter. — *FCC*

Hamfest

ALABAMA

Montgomery ARC Hamfest/Computer Show 9 a.m. - 3 p.m. 11 Nov. at South Alabama State Fairgrounds (Federal Drive in NE Montgomery). Adm $5. Tailgate space $5. Indoor flea market spaces available (reservations required). VE exams. TI: 146.24/84. For info: Hamfest Committee, c/o 2141 Edinburgh Dr. Mongomery, AL 36116-1313 or call Phil at 334/272-7980 (after 5 p.m. CST). E-mail: k40zn@arrl.net; web site: http://jschool.troyst.edu/~w4ap/.

COLORADO

Rocky Mountain Radio League, Inc. Hamfest 8 a.m. - 2 p.m. 11 Nov., at Jefferson County Fairgrounds, 15200 W. 6th Ave., Golden, CO. Adm. $4, Tables $10. VE exams, ARRL forum, door prizes. TI: 144.62/145.22. For info: Ron Rose, NØMQJ, 303/985-8692 or e-mail: nØmqj@arrl.net.

INDIANA

Allen County Amateur Radio Technical Society Fort Wayne Hamfest/Computer Expo, 18/19 Nov, at Allen County War Memorial Coliseum (corner of Indiana 930 (Coliseum Blvd) and Parnell Ave.) Fort Wayne, IN. Open Sat 9 a.m. - 4 p.m., Sun. 9 a.m. - 3 p.m. (Setup Fri. eve./Sat. morning). Adm $5 (good for both days) at the door. Parking $2. 1,100 commercial and flea market tables available. Tables $20 for flea market, $40 for premium, $27.50 for electricty. Forums, VE exams, shuttle bus to and from commuter airport and shopping centers. TI: 146.88(-). For info: 219/483-8163(tables) or 219/484-1314(gen. info), or SASE to AC-ARTS/Ft. Wayne Hamfest, P.O. Box 10342, Fort Wayne, IN 46851. Web site: http://www.acarts.com.

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Evansville Winter Hamfest 8 a.m. - 2 p.m. 25 Nov., at Vanderburgh County 4-H Center Fairgrounds Auditorium, Evansville, IN (on Hwy 41, north of Hwy 57, South of I-64). Adm. $5, tables $8, wall spaces $10 (add $2 each after 15 Nov.). Free parking, free tailgating, indoor flea market, commercial dealers. TI: 145.150(-), 146.925(-) or 443.925(+) (pl 107.2 on all). For info: Neil, WB9VPG, 812/479-5741, or write to EARS, 1506 S. Parker Dr., Evansville, IN 47714. E-mail: ears@w9ear.org; web site http://w9ear.org/hamfest.htm.

MICHIGAN

Blossomland ARA Blossomland Blast, 8 a.m. - noon, 5 Nov., at Playland Hall. Adm. $3 (adv), $4 (door). Tables $4 (adv.) $5 (door). Vintage radio display, door prizes, refreshments. For info: Duane or Barb Durflinger, 1051 Main St. St. Joseph, MI 49085. Phone: 616/982-0404; e-mail: comdac@comdac.com; web site: www.comdac.com/bara.

NEW HAMPSHIRE

Interstate Repeater Society Fall Hamfest & Flea Market 8 a.m. 04 Nov. at Londonderry Lions Club, Mammoth Rd. Londonderry, NH. Adm $3, Tables $10. Vendor set-up 6 a.m. TI: 146.85 (pl 85.4). For info: Paul, K1LL, at 603/883-3308 or e-mail: harold@neainc.com.

NEW JERSEY

Delaware Valley Radio Association Hamfest, 8 a.m. - 1 p.m. 04 Nov at Lawrence High School, 2525 Princeton Pike, Lawrenceville, NJ. Adm. $5. Outdoor spaces $10 (w/one adm.), Indoor spaces $15 (w/one adm.) Limited indoor power. VE exams. TI: 146.670 (pl 131.8). For info: web site: www.slac.com/w2zq; e-mail w2zq@arrl.net; phone 609/882-2240.

OKLAHOMA

Enid Hamfest Group Hamfest, 8 a.m - 5 p.m. 04 Nov. at Garfield County Fairgrounds Hoover Bldg, Enid. OK. Adm $2, Tables $1. Free refreshments. TI: 147.150(+) or 444.400(+). For info: Tom Worth, N5LWT, 580/233-8473, e-mail: n5lwt@hotmail.com, or Fred Selfridge, WA5OU, 580/242-3551, e-mail: frednnel73@hotmail.com.

TEXAS

West Texas ARC Odessa Hamfest 8 a.m. - 5 p.m. 04/05 Nov. at Ector County Coliseum, Bldg D (42nd and Andrews Hwy) Odessa, TX. Adm. $3. Tables: $8/adv $10/door. VE exams 1 p.m. Sat. TI: 145.470, 444.425 MHz or 3.922 MHz. For tables: Mike Glenn, K5EG, 3104 Dumont, Odessa, TX 79762, Phone: 915/362-1428; e-mail: k5eg@caprok.net. For info: Craig Martindale, W5BU, Phone: 915/366-4521 or e-mail: k5eg@caproc.net.

WISCONSIN

Fox Cities ARC Hamfest, 8 a.m. 05 Nov. at Starlite Club, Hwy 55 & county Rd., Kaukauna, WI. Adm $4. Tables $8. VE exams (walk-ins O.K.), ARRL info, comm. vendors. TI: 146.52. For info: John Ensley, 335 W. Prospect Ave. Appleton, WI 54911. Phone: 920/830-3194. E-mail: n9rjz@arrl.net; web site www.w9zl.ampr.org.

Information in "New Products" is supplied by the manufacturers to acquaint ***Worldradio*** *readers with new products on the marke*

Kangaroo Tabor ID Wizard clock

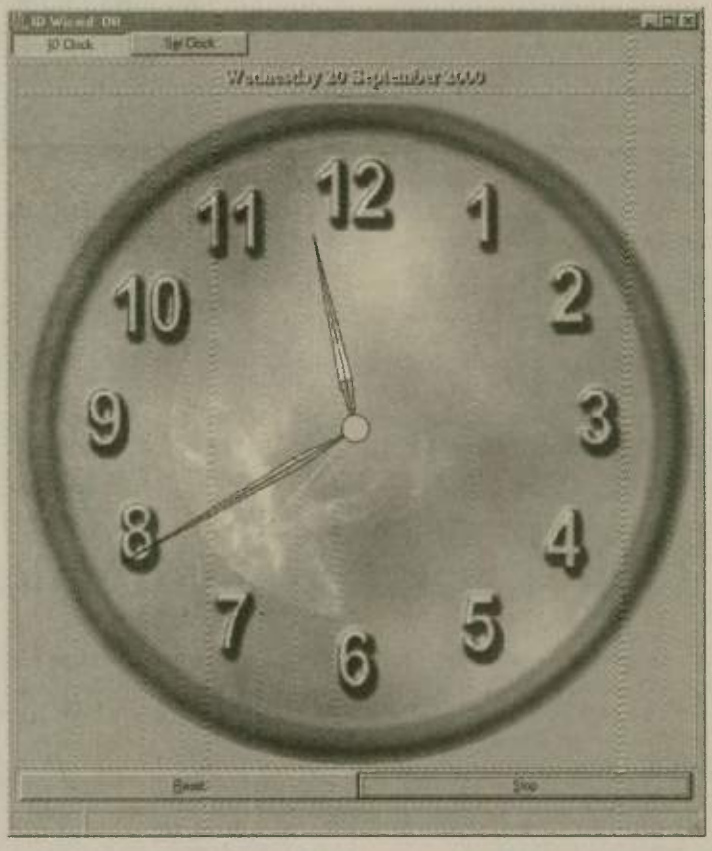
If you are like most amateurs, you have a PC in your shack, and you have that little itty-bitty clock along the Windows™ taskbar. Wouldn't it be nice to have a nice big clock on the screen? Now you can. Kangaroo Tabor software has a "QSLware" clock that's downloadable from the web site: www.taborsoft.com/softstuff/idwiz.

Once you download and install this clock, you'll have a very nice clock on the desk top, along with some nifty utilities. The clock can be modified by changing the color of the hands, the background, and you can even put your favorite graphic on the face.

The program also includes a "notepad" type text editor, and a calculator. It's really worth the time and effort to download and install.

What is "QSLware?" It's software that's free, as long as you send an e-mail back to the designer saying if you like the program and what improvements you would like to see.

For more fun, go to the web page: www.hamtools.com/nerdalert. You'll find a fun ID timer from the same folks.



MFJ-1709 Foot Switch

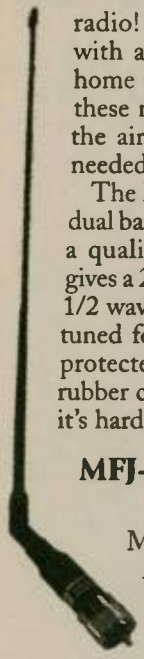
Now you can add the convienence of foot switch operation in your shack for a low, low price. The MFJ-1709 Foot Switch makes operating in a contest a breeze! By using your foot instead of your hand for keying your microphone, you can easily log, run your computer or tune-up. This foot switch offers ease of operation with the MFJ-396, MFJ-394 boom microphones or headset/boom microphone combinations or other professional-grade microphones.

It's a compact, non-skid size is perfect for under your desk or operating console and comes with a 10 foot cord terminated into a 1/4" phone plug. It's available for the low price of $21.95.

MFJ-1717PL 2-meter/440 back-of-radio antenna

So, there you are, walking around the Hamfest, and you see the perfect bargain — a used dual band mobile. But, does it work? Now you can find out! All you need is a battery source (under the hood of your vehicle), and just plugging in this new compact dual band antenna and you can check out that "bargain"

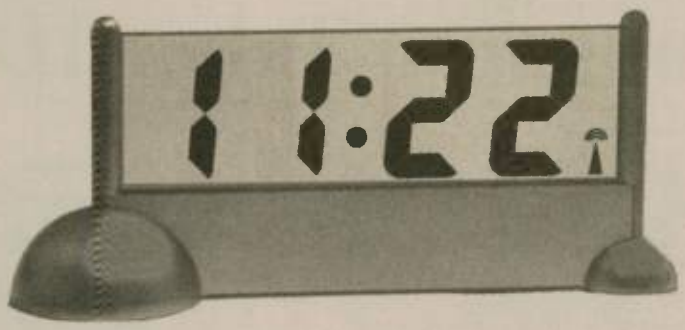
New Products



radio! Or, you have a problem with antenna restrictions at the home QTH. Just plug in one of these new antennas and your on the air! No outdoor installation needed!

The MFJ-1717PL is a foldover dual band flexi-duck antenna with a quality PL-259 connector. It gives a 2.15 dBi gain on 440, and is 1/2 wave on 2 Meters. It's factory tuned for minimum SWR and is protected by a durable synthetic rubber compound. At just $24.95, it's hard to resist this handy item.

MFJ-134 see-through clock



MFJ Enterprises introduces Amateur Radio's most unique clock. It's see-through! The large 1 3/4" digits seem to float in mid-air! These new clocks come in either a 24-hour version (MFJ-134) or a 12-hour version (MFJ-132). Each clock has a very loud alarm, snooze function and operates on two "AAA" batteries. The attractive silver tone finish looks great in the shack or on your desk. Both of these clocks have the same low, low price — $34.95.

All of MFJ's products are protected by the *No Matter What*™ one year limited warranty.

To order, or for your nearest dealer, call: 800/647-1800; fax: 662/323-6551, or write to MFJ Enterprises, Inc., P.O. 494, Mississippi State, MS 39762. E-mail: mfj@mfjenterprises.com or see the web site: www.mfjenterprises.com.

FCC denies petitions for license reinstatement

The FCC this week denied three petitions for reconsideration filed by Amateur Radio operators. All of the petitions were turned down because the FCC said they had not been filed properly.

In separate orders released 11 September, the Wireless Telecommunications Bureau, dismissed the petitions of Lawrence Gutter, ex-WA2YTO, and Richard E. Jamison, KG6ARN and ex-K1OTO. Both had sought reconsideration of the FCC's denial of their license renewal applications.

Gutter's and Jamison's licenses both expired in late 1997, and the two filed for renewal in late 1999. Both filed at or near the end of their two-year grace periods. Neither included their Taxpayer Identification Number, typically a Social Security Number for an individual, on his renewal application, and the FCC promptly dismissed both applications.

Citing their earlier ignorance of the FCC's TIN requirement, Gutter and Jamison sent second applications that included their TINs to Gettysburg after their grace periods had expired.

In an Order released 12 September, the FCC also turned down the Petition for Reconsideration filed by Charles W. Heard, W4CO and formerly W2FLA. Heard had sought reconsideration of the October 1999 denial of his application for the vanity call sign W4FX. The call sign went instead to another applicant, Robert C. Williams, formerly KA4H. Both had filed electronic applications for W4FX on 16 August. Heard contended that the FCC erred in assigning W4FX due to a handling error and because of misuse of the system. The FCC Order said Heard's allegations "lack merit" and that the ULS "processes mutually exclusive vanity call sign applications received on the same day in random order." The system selected Williams as the recipient on 28 October 1999.

But in the end, the FCC dismissed all three petitions as "improperly filed," because they were sent to the FCC's office in Gettysburg, Pennsylvania, rather than to Washington, DC, and were not received by the FCC Secretary's office within 30 days, as FCC rules require.

In footnotes to the Gutter and Jamison rulings, however, the FCC strongly suggested that their petitions would have been denied even if they had been properly filed. The Commission said the fact that Gutter and Jamison were unaware of the TIN requirement was not sufficient justification for the reinstatement of their licenses.

The FCC also said Gutter and Jamison could have avoided problems by not waiting until the end of their grace periods to file for license renewal. Jamison got licensed again in March after taking the Amateur Extra-class exam battery over from scratch. Gutter, who had held a General ticket, remains unlicensed. — *ARRL Letter*

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

Date	City	Contact	Notes
Alabama			
11/07/00	Mobile	David, WA4AVC 334/649-5229	p/r pref
11/11,13/00	Montgomery	Steve, K4NM 334/271-9603	w/i
Arizona			
11/11/00	Prescott	John, KM6BF 520/636-1228	w/i pref
11/11/00	Tucson	Joe, K7OPX 520/886-7217	w/i only
Arkansas			
11/25/00	Gassville	Phil, AB5ZU 870/425-7406	p/r pref.
California			
Hotline	Carmichael	Info Hotline: 916/492-6115	w/i
11/16/00	Colton	Harold, AB6RN 909/825-7136	p/r pref.
11/25/00	Culver City	Scott, K6PYP 310/459-0337	w/i
11/04/00	Culver City	Clive, AA6TZ 310/827-2538	w/i pref.
11/25/00	Escondido	Harry, WA6YOO 760/743-4212	p/r only
11/13/00	Fremont	Dennis, K6DF 408/255-9000	w/i only
11/19/00	Fresno	Charles, W6DPD 559/431-2038	w/i only
11/11/00	Glenn Ellen	Collen, 707/996-9252	w/i ok
11/05/00	Hanford	Lynn, NW6K 209/582-5232	w/i only
11/04/00	Hesperia	Jim, KW6V 619/244-1396	w/i
11/05/00	Oakland	David, WB6NER 510/987-2867	p/r pref
11/18/00	Redwood City	Al, WB6IMX 408/255-9000	w/i only
11/11/00	San Pedro	Elvin, N6DYZ 310/325-2965	p/r pref.
11/11/00	Santa Barbara	Nancy, WR6V 805/967-4473	p/r pref.
Hotline	Santa Rosa	Hotline - Recording, 707/579-9608	w/i ok
Hotline	Sebastopol	Recording, 707/579-9608	
11/18/00	Stockton	Mark, W6DKI 209/465-7496	w/i
11/11/00	Sunnyvale	John or Gordon 408/255-9000	w/i only
Colorado			
call	All Colorado	Exam recording 303/360-7293	
Connecticut			
11/21/00	Middletown	Paul, K1PL 860/635-1742	p/r pref.
11/11/00	Newington	Dan, K3UFG 860/206-3379	p/r pref.
Florida			
11/09/00	Ft. Myers	Leonard, KC4GOA 941/694-2505	w/i
call	St. Pete	Mark, NP3R 727/528-0071	w/i pref.
Idaho			
11/11/00	Athol	Bob, N7GHV 208/683-2094	p/r
11/15/00	Grangeville	Larry, AB7GY 208/983-2163	w/i pref.
Illinois			
Anytime!	Burr Ridge	Deni, W9DS 630/986-0061	p/r
11/13/00	Libertyville	John, W9EM 847/223-3357	p/r pref
11/11/00	Oak Forest	Dave, NF9N 708/226-1570	p/r pref.
Indiana			
11/25/00	Whitley Cnty	Henry, KB9CQO 219/244-7735	w/i only
Massachusetts			
11/18/00	Melrose	Scott, WB1F 617/665-7654	w/i ok
Michigan			
11/14/00	Howell	Greg, AA5GO 517/548-5893	p/r pref.
11/04,18/00	Mt Clemens	Don, WA8IZV 810/294-1567	p/r pref.
Nebraska			
11/28/00	Omaha	Brian, KMØY 402/533-2610	w/i
Nevada			
11/04/00	Henderson	Tim, WA6TNW 702/872-5268	p/r pref.
11/18/00	Minden	George, WW7E 702/265-4278	w/i pref.
New Jersey			
11/08/00	Ft. Monmouth	Mike, KC2Q 732/774-1095	w/i only
11/18/00	Pennington	Don, AA2F 609/737-1723	p/r pref
New York			
11/13/00	Bethpage	Bob, W2ILP 631/499-2214	p/r pref
11/11/00	Huntington	Stan, N2YKT 516/423-7132	p/r pref.
11/26/00	Lindenhurst	Tom, KA2D 631/422-9594	w/i
11/05/00	Yonkers	Emily, AC2V 914/237-5589	w/i
11/24/00	N. Lindenhurst	Tom, KA2D 631/422-9594	w/i
11/11/00	Old Westbury	Al, W2QZ 516/623-6449	w/i
Ohio			
11/04/00	Cincinnati	Herb, WA8PBW 513/891-7556	w/i pref
11/05/00	Lagrange	Ola, WB8MOU 440/647-5116	p/r pref.
11/25/00	Rockford	Robert, KA8IAF 419/795-5763	p/r pref.
11/16/00	Youngstown	James, W8JV 330/534-1394	p/r pref.
Oregon			
11/07/00	Bend	Joe, K7SQ 541/385-3152	p/r
11/11/00	Dallas	Robert, W7LOU, 503/623-1141	p/r
11/08/00	Eugene	Riley, W7EUD 541/345-2407	p/r pref
11/08/00	Florence	Hal, N7HL 541/997-2323	p/r pref.
11/24/00	Grants Pass	Bill, WX7U 541/476-2703	p/r pref.
11/18/00	Gresham	Patsy, W7PAT 503/668-4305	w/i only
11/07/00	Hermiston	AB7HB 541/922-9076	p/r pref
11/04/00	Lincoln City	Carl, K7EWG 541/994-3113	p/r pref.
11/08/00	McMinnville	Mike, W7MJ 503/864-3291	p/r
11/18/00	Newport	Phil, W7BFX 541/563-3866	p/r
11/16/00	North Bend	Steve, KA7A 541/756-6697	
Sundays	Sisters	Dave, N7TYO 541/549-7831	p/r
11/12/00	Tigard	John, KSØF 503/626-7399	p/r pref.
11/25/00	The Dalles	W7ACC 541/296-3466	
Pennsylvania			
11/11/00	Butler	Gerald, W3DMB 724/282-6777	p/r
11/04/00	Erie	Norma, W3CG 814/665-9124	w/i only
11/02/00	Philadelphia	Dusty, ND3Q 215/448-1139	p/r pref
11/20/00	Telford	Joe, W3PNL 215/723-6697	p/r pref
Puerto Rico			
11/25/00	San Juan	Victor, KP4PQ 787/789-4998	w/i
Rhode Island			
11/09/00	Providence	Judy, KC1RI 401/231-9156	w/i pref.
South Carolina			
11/15/00	Goose Creek	Robert, KU4OX 843/761-7637	w/i only
South Dakota			
11/18/00	Rapid City	Frank, NUØF 605/348-6564	w/i ok
Texas			
11/18/00	Austin	Jim, AB5EK 512/327-6184	w/i
11/04/00	Harlingen	Frank, KG5W 956/412-5820	w/i
11/25/00	Houston	Bill, K8CSG 281/537-9240	w/i ok
11/14/00	Houston	Harold, ND5F 713/464-9044	p/r pref.
11/18/00	Mission	Jeff, N5LOO 687-5161	w/i
11/14/00	Stafford	John, KK5NU 713/960-1955	p/r pref.
11/11/00	Webster	David Fanelli, kb5pgy@clarc.org	w/i pref.
Virginia			
11/11/00	Alexandria	John, WZ4A 703/971-3905	w/i
11/09/00	Chesapeake	Pat, AF4FR 421-9598	p/r
11/04/00	Portsmouth	Art, AA4AT 804/484-2857	p/r
Washington			
Hotline	Vancouver	CCARC, 360/896-8909	
Wisconsin			
11/05/00	Kaukauna	George, W9MDP 920/730-0967	

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WANTED FOR MUSEUM: Apple-1 and other pre-1980 micro-computers, also early-microcomputer journals, newsletters and advertising literature. KK4WW, P.O. Box 341, Floyd, VA 24091; 540/763-2321. 600-601

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Florida amateur is Law Enforcement Officer of the Year

David Myers, W4USA, of Orange Park, Florida, has been selected as the 2000 Florida State Law Enforcement Officer of the Year. He was honored at the State Law Enforcement Chiefs Association conference in August.

Myers heads the Fraudulent Identification Program through the Division of Alcoholic Beverages and Tobacco under the Florida Department of Business and Professional Regulation. The program is known nationally, and Myers is recognized as one of the nation's leading experts in fraudulent identification Internet issues. "Some 30 percent of the fake IDs authorities now see in Florida are produced on the Internet, up from 5 percent last year and 1 percent two years ago," said Myers. He says some fake ID sites get more than 10,000 inquiries a day, and that operators can generate more than $1 million a year. Frequently sought out by news media for his expertise, Myers testified last May before the U.S. Senate Permanent Subcommittee on Investigations on fraudulent identification and credentials on the Internet. He has closed 33 Internet sites and has an impressive record of 310 arrests for possession of false IDs. — *Department of Business & Professional Regulation, ARRL Letter*

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Riding the rails
— to the FCC office

Dewey Byerley, W6RDK

I had been in trouble with the law twice — nothing too far out of line. I was aware if my activities and thinking did not change there was disaster in the offing. My QTH was Albany, Oregon.

My father moved our family to 7th street. I got acquainted with Mick who lived a block away. He was fascinated with electronics having built his HF receiver.

This fall and winter of 1934/35 the WPA started an Amateur Radio class headed up by Howard Truax, W7SO, who in short order became my mentor.

With some CW under our belts, Mick and I had a QSO using Ford spark coils.

One evening, at our radio class, we were called outside to witness a fairly large red glow on the northern horizon. The Oregon state capitol building in Salem was burning to the ground.

Early in July of 1935 the time had come for our rendezvous with the FCC in Portland, OR. Mick and I boarded a freight train, arriving in Portland in the early morning. We had a walk of four miles to the FCC. Our favorite morning eatery was on the way. Here for one thin dime you were dished up three steaming-hot hotcakes with butter, syrup and a cup of coffee.

Next stop, the FCC office. I was shot down before the paperwork began — the code test threw me. Mick passed the complete exam.

Thirty days later, Mick and I hopped a freight train, getting into Portland in the early evening. We located the Portland Annex, 15 cents each for the night. I awoke the next morning with the knowledge – bed bugs had worked me over.

I had no trouble passing the exams even though the FCC examiner gave me two runs at the code.

We rode the freight as well as blinding passenger trains to and from Portland. Portland had several stores with parts from broadcast radios which could readily be used in building amateur equipment.

The 75-mile train ride proved pleasant most of the time. One interesting area along the route was near Oregon City. A nudist camp with a ten-foot fence ran parallel to the train tracks. We never saw "hide nor hair" although we were on top of a box car.

My first QSO was in the 40-meter band – well, that is almost. The pink ticket sent me from Portland FCC said I was transmitting 28 December 1935 on 6991.328.

My reply: I will not get on the air again until crystal controlled. I heard nothing more from the FCC. With my crystal control I started burning the midnight oil. My call was W7FJW. Mick McDaniel's was W7FGE

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