

Worldradio

Year 22, Issue 10

April 1993 • \$1.25

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Royal Gardens QRT



Paul, W3FO, talks to WH6DT from Kupaianaha on the East Rift Zone, with Pu'u O'o in the west.

GREG POOL, WH6DT

On the steep fault scarps that mark where the southern flank of Kilauea Volcano has steadily slid into the Pacific for thousands of years, two Amateur Radio operators have finally rolled up the coax and are calling it a day. Paul, W3FO, and Jean, WH6DZ, Stoner left the Big Island of Hawaii in early September after filling the log with contacts that would make most hams jealous—but they paid the price. Or did they?

Royal Gardens is a subdivision just outside the eastern edge of the Hawaii Volcanoes National Park. It extends up the slope of rainforest, 1,500 feet above the Pacific Ocean; but some of it once occupied the dry, coastal plain

below. Put in during the 1970s, the realtor who began selling its lots once boasted that his company was “growing faster than Hawaii itself.”

But nothing grows faster than the island of Hawaii. In January 1983, a fissure roughly three miles long broke along the East Rift Zone of Kilauea and began erupting lava *makai* (lava flowing toward the sea) over five miles away. In between the vent and the sea was Royal Gardens. By July, lava had surrounded the house Paul and Jean would later caretake. Issued from the Pu'u 'O'o cinder cone, these slow-moving fingers of *a'a* (a rugged, jagged-edged lava flow) chose to travel down the roads at the top of the subdivision, rather than cutting their

own. The lava forced the evacuation of the area, and the advancing flows first burned and then buried 15 homes; but most of Royal Gardens remained untouched and accessible.

In 1986, the continuing eruption opened a new vent, called Kupaianaha (*koo-pie-a-naw'-ha*). Although the word can mean surprising, strange, wonderful, amazing, extraordinary, unaccountable, or marvelous, its flow led to the destruction of the park's Waha'ula Visitor Center in 1989 and the village of Kalapana in 1990. It also covered much of Royal Gardens' coastal area. The eruption continues to this day and has claimed over 180 homes. Royal Gardens' upper portion
(please turn to page 13)

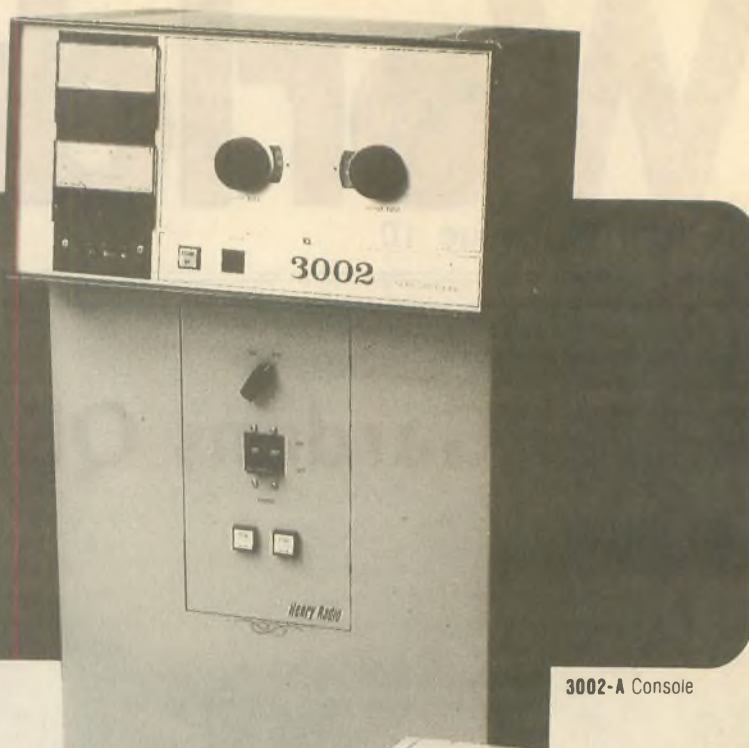
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In the merry old land of Dahs

WARREN E. DION, NIBBH

A bright afternoon sun bathed the tranquil hills and valleys of Ditland, home of the Dits. Across the river, the same warm afternoon sun bathed the equally tranquil hills and valleys of the land of Dahs, where (you guessed it) the Dahs lived. The two countries, though alike in many ways, might well have been a million miles apart, and different as night and day. The last time a Dit spoke to a Dah was so long ago that not even the oldest inhabitant of either country could remember when.

"Why don't we speak to the Dahs?" little Billy Bright asked his grandpa.

"Because they never speak to us," was Grandpa Bright's reply.

"But suppose somebody said 'hello' to a Dah?" Billy continued.

"Wouldn't ever happen," Grandpa snapped, "Nobody's crazy enough to risk it. Anyhow, who wants to speak to the Dahs? Now go along and play, and forget about those Dahs."

Billy left, dejected, puzzled, unsatisfied.

"Why don't we ever speak to the Dits?" Sammy Smart asked his father.

"Why should we? What's in it for us?" Father Smart replied.

"Well, suppose somebody did?"

"Probably get shot. Anyhow, can't think of anything I'd rather not do,"

father Smart replied, picking up his newspaper and turning away.

Sammy left, still wondering.

"Gramma, what are the Dahs like?" asked little Sally Short, as she snuggled in her gramma's lap.

"Sakes, child, what kind of a question is that?" Gramma replied, then continued, "The Dahs are good folks, I believe, but not like us. For one thing they are so big! Any one of them would make three of us and, land sakes, they are slow. Why, it takes them so long to say 'Good mornin'' that by the time they get to 'mornin'' you've forgotten what word came before it! But, they're good folk, I believe."

Little Lisa Long put down her coloring book and sidled over to the easy chair where Gramma Long was busy with her knitting. "What are the Dits like, Gramma?" she asked.

Gramma Long patiently put down her knitting and, after writing a note in her little pad, lovingly drew Sally to her side. "They are a lot like us in some ways," she said, "but different. Why, they are so skinny! It would take three of them to make one normal person. And when they talk they go so fast! My, my, it's almost impossible to keep up with them. And they often lose count, and you hear four dits where there should be only three. All

the same, they're good folk, I guess."

Twice a day the only train plying the Valley Railroad stopped at the station which served both countries—once headed upriver, and again upon its return. Besides the mail, occasional freight, and folks returning from the city, there was little reason to meet the train, but lacking competition from any other event, it had become the highlight of the day.

One day in early autumn a stranger carrying a leather valise and small portfolio dismounted and made his way to the stationmaster's window. Necks craned and whispers grew among the crowd of regulars. Strangers were rare birds in those parts, especially one wearing a business suit on a weekday! His distinguished, clean shaven face, and a fringe of graying hair beneath his Homburg, suggested his maturity.

When the bustle had subsided and the stationmaster returned to his cage, the stranger pulled a card from his wallet and slid it under the grating. The stationmaster picked it up and read, *Samuel F.B. Esrom, Esq., C.C.C.*

The railroad man was first to speak. "Good morning, sir," he called politely, "And what can I do for you?"
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the flame of vitality to this avocation.

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PUBLISHER'S MICROPHONE

Many people suffer the slings and
arrows and vicissitudes of life. Others
seem to live charmed lives. Here are
some more of the fortunate ones—the
latest to become **Worldradio** Super-

Boosters (lifetime subscribers):
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One of the charmed circle above,
George S. Lyle, N7TNJ, relates: "My
father, George V. Lyle, K7ZAU, tells
me that a few years ago (20 plus) he
attended the SAROC hamfest in Las
Vegas. He met a fellow there who had a
fledging magazine called **Worldradio**.
Dad took a chance on the new publica-
tion and took out a life subscription for
which he paid about 40 pre-inflation
dollars. It seems to have been a good
investment. Taking a lesson from his
experience, I enclose a check in the
amount of \$140 for my own life sub-
scription to **Worldradio**."

P.S. My one-year-old, Claire (who al-
ready knows half of the code—the 'Dah'
half), will probably have to pay about
\$490 when she buys her life subscrip-
tion, so I don't feel so bad! HI"

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percentage of cost increase the post
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ter!) hopes to serve generations of Lyles
to come at whatever the price the post
office and the printer force us to charge.

In the continuing saga of our reports
to help you determine if RF is danger-
ous to you, we must report that Harold
Henry Beverage, RCA scientist and
inventor of the Beverage antenna, has
passed away. He was 99.

The Raleigh (NC) Amateur Radio
Society, on their monthly bulletin where
the return address goes, has, in big bold
letters, "Amateur Radio—A National
Resource," which it is, indeed.

Amateurs who have some interest in
the satellites but are a bit hesitant
about spending for the necessary UHF
rigs, antennas, rotors for two axes, etc.,
might wish to get their feet wet the easy
way. There are some birds whizzing
about only 600 miles above earth. They
can be reached if an amateur has two
HF rigs that can cover 10 and 15M and
just ordinary dipoles or beams. The
whole story (on how to do it) is available
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Speaking of Morse, I hear that the
real CW buffs are going ape over the
Jones Key, which is available from Pal-
omar Engineers of Escondido, CA. As
one brasspounder put it, he told of tak-
ing his previous key (which had been
considered one of the best) and "put it
back in its box" after obtaining a Jones
Key.

A nice QSL card was received from
P29DX. It has a photograph of the in-
digenous people on it. Nice touch. QSL
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some special effort has been made. We're
certainly going to attract more interest
in the attraction to become an amateur
when we show "civilians" QSL cards
that are symbolic of something. The
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meaning will be money well spent.

—Armond, N6WR

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—William Arthur Ward

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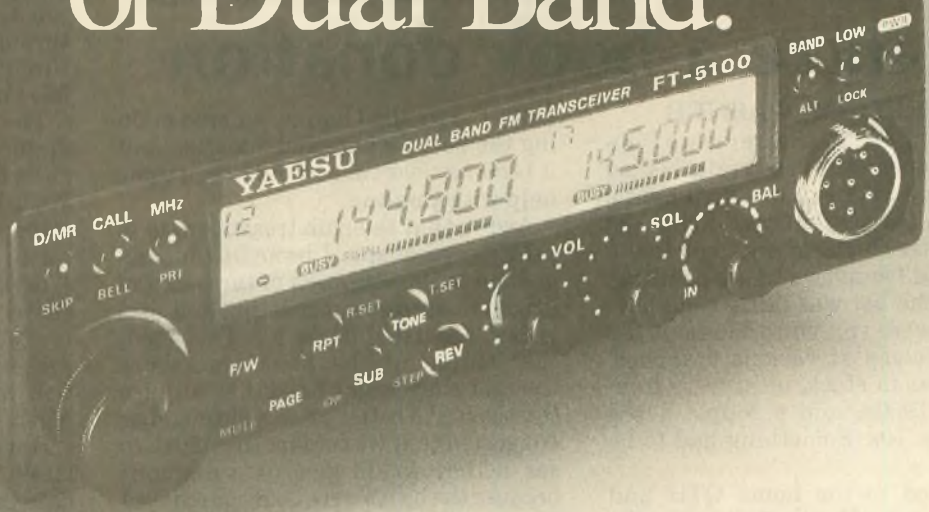
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Library Assistant Director Janet Larson accepted the donation presented by Bud Goreham, WA6NEB, and Dick Thompson, W6IAP.

Organize a book donation

BUD GOREHAM, WA6NEB

Last fall, 1992, the Sacramento Public Library opened its newly refurbished main branch in downtown Sacramento, California. On my first visit I checked the computer listing of Amateur Radio books. What I found was disappointing. Although the list was fairly complete, the books were spread throughout the system, shelved at various branches. Of the books in stock, most were from the early 1980s, and a couple dated back to the '70s. Something had to be done.

I returned to the home QTH and compiled a list of books that I thought would be useful to potential amateurs. The total expected cost came to about

\$300. Originally I had considered making the books a personal donation, but it became clear that I would need some help with this one.

Aware that the club treasury was in pretty good shape, I brought the suggestion to the attention of the board of directors at the next meeting and presented the list of books I had selected.

A couple of the board members thought they might be able to acquire the books at a better price. One member suggested that we contact the ARRL because the books were being purchased for a library. Over the next two months inquiries were made with various sources, and we discovered that the ARRL

package was by far the best deal. The proposal was taken to the general club membership at the next regular meeting, and the majority voted in favor of the motion.

The ARRL set, available for \$120, includes the following: *Antenna Book, 16th Ed.*; *Antenna Compendium, Vol. 1*; *1993 Handbook* (hardcover); *Now You're Talking*; *First Steps in Radio*; *Fifty years of ARRL*; *Yagi Antenna Design*; *Satellite Experimenter's Handbook*; *OM Operating Manual, 4th Ed.*; *200 Meters and Down*; *Data Book*; *Gil Cartoon Book*; *WIFB's Antenna Notebook 2*; *WIFB's Help for New Hams*; *WIFB's QRP Notebook*; Technician through Extra Class license manuals, *The FCC Rule Book, 8th Ed.*; *SOS at Midnight*; *CQ Ghost Ship*; *DX Brings Danger*; *Death Valley QTH*; *Grand Canyon QSO*. This set can be purchased through the ARRL Educational Activities, 225 Main Street, Newington, CT 06111; 203/666-1541.

The presentation was made on 28 January. Two members of the North Hills Radio Club, Inc., Dick Thompson, W6IAP, and Carl Schultz, WF6J, accompanied me to the library where we were met by Lou Ann Keogh, KB6HP, of *Worldradio*. The set of books was presented to Janet Larson, assistant library director. In addition *Worldradio* presented a complimentary subscription and a copy of Kurt N. Sterba's *Aerials*.

Have you visited your local library lately? Is it well-stocked with up-to-date books on the Amateur Radio hobby? If not, you might want to consider organizing a book donation with your club. WR

VCRi solution

COLIN NEAL, N3LCU

I generated dramatic horizontal black and white static bars and a loud buzz in my neighbor's VCR whenever I keyed my 100W CW transceiver on 30M (10.1 MHz) while they played or recorded video tapes.

My antenna was a center-fed Zepp (33 feet on each leg) fed with open-wire line and tuned with a commercial transmatch to 1.0:1.0 SWR. The center of the antenna was approximately 30 feet from the neighbor's VCR.

Several earlier attempted remedies proved ineffective: a low-pass filter and an AC line filter on my transceiver; a high-pass filter and a homebrew Faraday coupler on the VCR input; and a toroid core RF choke on the AC line of the VCR.

The problem was completely cured when I switched to a sloper resonant dipole for 30M (23 feet, 1 inch on each leg), fed with RG8X coax, with the center of the antenna located approximately 100 feet from the VCR. Eight ferrite beads with 1/4 in. holes (Amidon

#FB77-5621, \$1.50 each) were slipped over the coax at the antenna center insulator feedpoint to prevent RF current from flowing back to the transceiver on the outside of the coax braid. WR

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Arizona New Year's floods

ED RYAN, N7VEX

A desert rat and a drowned rat are not usually found in the same proximity, but that was not the case at the year's start in most of Arizona. Seven consecutive days of rain, starting just after Christmas, led to severe flooding in 13 of the state's 15 counties.

The Phoenix area is located in the Valley of the Sun, which is the drainage for the Salt and Verde River systems. Gila and Pinal Counties, to the east and south, form the drainage area for the Gila River. The rivers started to rise due to rain and releases from water storage dams on Friday, 8 January, the night of a full moon.

On the 8th, the Central Arizona Chapter of the American Red Cross, located in Phoenix, asked for Amateur Radio assistance to provide communications between two shelters and the chapter house. One shelter was located in Cashion, near the confluence of the Salt and Gila Rivers, the other in a low-lying area of Mesa. Amateur Radio was utilized, as the distance to the shelters from the chapter house precluded the use of Red Cross 47 MHz frequencies. This operation lasted two days.

As the weekend progressed, more

rainfall and water releases led to more damage along the various river systems and low-lying areas of the state. From a local disaster in Phoenix, the incident became a Red Cross National Disaster, DR 022. By 15 January it was decided that a job headquarters would be established in Globe.

These headquarters supervised Red Cross operations in five service centers around the state from Leupp, on the Navajo Reservation in the northeast, to Winslow, to Camp Verde, to Winkelman (the most severely damaged area), and Sacaton on the Gila Indian Reservation south of Phoenix. There were also flooding incidents on the San Carlos Apache Reservation, and in Clifton, Duncan, Nogales and Tucson. Several large natural gas pipelines became exposed and ruptured around the state, but they caused no additional damage.

Morgan Hoaglin, WW7B, Disaster Communications Committee vice-chair of the Central Arizona Chapter, was the communications officer and set up

the operation in Globe on 16 January. Ed Ryan, N7VEX, also from the Central Arizona Chapter, arrived the next day. Ed was relieved by Chapter Disaster Communications Chair Dan Meredith, N7MRP, on 21 January. Amateur communications were conducted on 2M and 70cm, with HF capability off-site.

The job headquarters also had access to Civil Air Patrol and Arizona Emergency Communications Support System (AZNG) frequencies, as well as the Red Cross National Disaster frequency, 47.42 MHz. While this was going on, a tornado touched down in northeast Phoenix on Tuesday, 19 January. Amateur Radio operators from the Arizona Repeater Association's Emergency Service Committee were requested to accompany damage assessment teams that day and the next.

The radio communications portion of the job was terminated on 28 January. As this is written, the job headquarters and the service centers are still in operation. We thank all of the many amateurs who provided assistance to the Red Cross for their dedication to emergency service. WR

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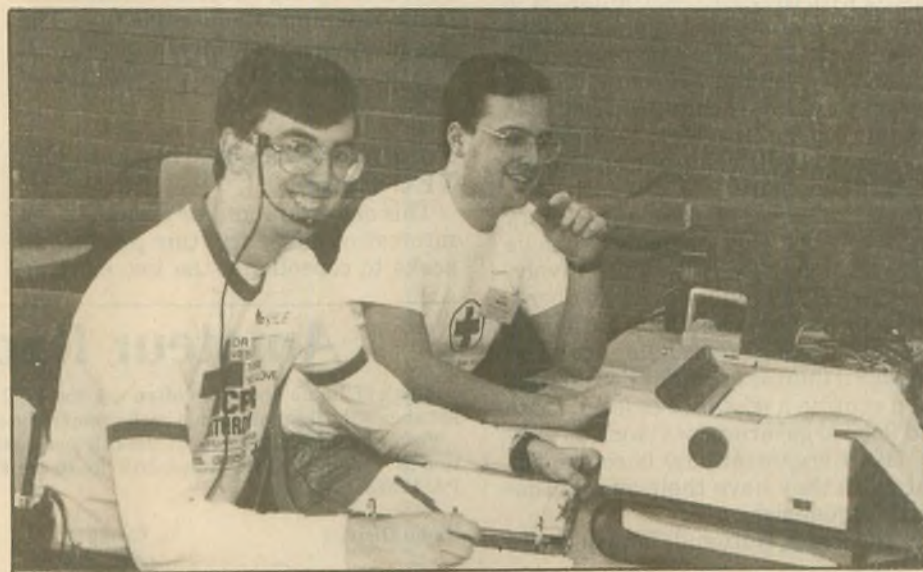
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VG E



Yolo ARS's Kyle Noderer, KB6OLL (foreground), assists Shayne Hughes, N6SPE, at CPR training site.

CPR Saturday

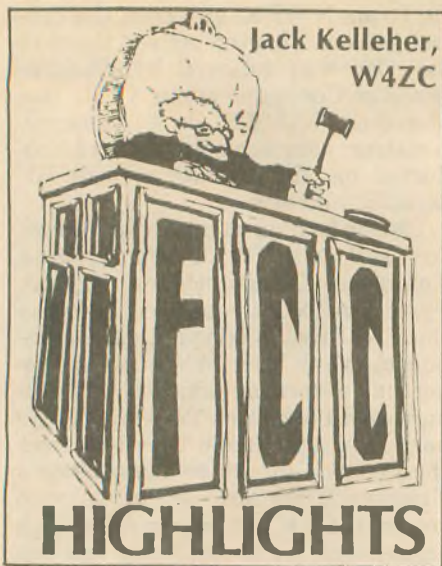
LOU ANN KEOGH, KB6HP

Many Sacramento, California, area Amateur Radio clubs participated in the 10th anniversary of CPR Saturday. Providing communications for the American Red Cross, four sites were linked via packet radio. At each individual site, simplex phone operations provided shadows for Red Cross officials and provided good logistical support.

Hundreds of local citizens enrolled

for certification in cardiopulmonary resuscitation training. With so many enrollees, it was necessary to break the training program into segments. As each group progressed through the various stages, the amateurs alerted the instructors as to the expected arrival time of the students and how many people to prepare for.

Red Cross officials expressed their gratitude for the amateurs' contribution to a smooth, efficient public operation. WR



Permissible and prohibited amateur communications (PR Docket 92-136)

The administrative work on this proceeding is being handled by FCC's Personal Radio Branch, Washington, DC

This rulemaking has a long and interesting history. The FCC had been talking with the ARRL on the matter of more liberal amateur communications as far back as 1990. Amateurs have long wanted to take part more fully in such functions as the Iditarod Dog Sled Race in Alaska, the New York Marathon, the Rose Bowl Parade and many, many other events.

All of these events have a pecuniary angle and as such, communications participation (especially those involving logistics) by Amateur Radio operators is prohibited. And ham gathering "talk-ins" over Amateur Radio are questionable if there is an admission charge. Even routine assistance to local, state and federal governments (such as public safety organizations) is controversial since they have their own authorized frequencies.

At the ARRL National Convention in

August 1991, new amateur communications parameters were first publicly suggested during remarks made by FCC Bureau Chief Ralph Haller. The FCC suggested three levels of communications: priority (emergency), primary (regular) and secondary (non-amateur). Haller asked the ARRL for its recommendations on the matter. The League views came in the form of a 14-page letter which was submitted almost exactly a year ago. The FCC treated the letter as a petition for rulemaking.

The League agreed that the no-business communications rule should indeed be relaxed. They especially wanted a mechanism which would permit wider participation by amateurs in public service events. In June the FCC issued a Notice of Proposed Rulemaking which substantially followed the League's informal proposal. But other requests (not asked for by the ARRL) which would permit amateurs to transact personal and logistical business on the ham bands, were also included in the NPRM. The comments period closed last fall, reply comments last month.

It is anticipated that the FCC will now issue a Report and Order sometime this spring adopting relaxed amateur communications guidelines. The big question is, how far will they go? It has the potential to be a blockbuster of a decision!

Folding Novice testing into the VEC system

This one is due out late spring. In the interest of efficiency, this proceeding seeks to consolidate the two existing

ham radio operator license testing programs into one. All operator license examinations, except for the Novice Class, are administered in the VEC system. Questions for all written examinations (including the Novice Element 2) are developed and revised by the VECs question pool committee. VEC coordination provides a procedure for circulating needed examination information to the VE team. The VEC system is also perceived as a more credible testing program. A Report and Order adopting the NPRM is expected.

VHF/UHF rule changes (PR Docket 92-289)

This item seeks to create a small sub-band (222.0-222.15 MHz) for weak-signal and experimental communications, extend Novice operation to the entire 222-225 MHz band, and allow Novices to be control operators of repeaters at 222 and 1270 MHz. Depending on the comments, a Report and Order adopting the matter is anticipated.

Commercial radio testing to use Amateur Radio model

The FCC has transferred the responsibility for the development and administration of commercial radio operator license testing to the private sector. The program will be handled in more or less the same way as the successful examination program in the Amateur Service, pursuant to PL97-259 of 1982.

In September 1986 the FCC released an inquiry seeking comments on whether the public interest would be served by allowing a private organization to

Amateur Radio Call Signs

Amateur Radio operators often ask the FCC what call signs have been assigned lately. This list shows the last call sign in each group to be assigned for each district, as of 1 February 1993.

For more information about the call sign assignment in the Amateur Radio Service, see Section 97.17(f) of the FCC Rules, or write to the FCC, Consumer Assistance Branch, Gettysburg PA 17325-7245.

Radio District	Group A Am. Extra	Group B Advanced	Group C Tech./Gen.	Group D Novice
0	AA0LH	KG0DI	N0VHH	KB0KYS
1	AA1FD	KD1MU	N1OFW	KB1AQS
2	AA2MK	KF2MW	N2TPL	KB2PVW
3	AA3DE	KE3GQ	N3OCP	KB3AOG
4	AC4ZT	KQ4NA		KD4WLX
5	AB5KI	KJ5HW		KB5YJN
6	AB6QH	KN6GJ		KD6RVS
7	AA7TO	KI7JT		KB7SGY
8	AA8JU	KF8YV	N8WXO	KB8OQD
9	AA9FT	KF9NF	N9SDT	KB9IJP
North Mariana Is.	AH0Q	AH0AM	KH0AZ	WH0AAT
Guam	NH2M	AH2CS	KH2GO	WH2ANF
Johnston Is.	AH3D	AH3AD	KH3AG	WH3AAG
Midway Is.		AH4AA	KH4AG	WH4AAH
Hawaii		AH6MH	WH6KL	WH6CQE
Kure Is.			KH7AA	
American Samoa	AH8G	AH8AE	KH8AI	WH8ABB
Wake Wilkes Peale	AH9C	AH9AD	KH9AE	WH9AAI
Alaska		AL7OO	WL7IK	WL7CGP
Virgin Is.	NP2W	KP2CA	NP2GI	WP2AHU
Puerto Rico		KP4UQ		WP4LTF

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draft and administer all FCC commercial radio operator examinations.

The FCC had been charging a \$35 fee for processing commercial radio operator license applications for more than two years. The establishment of the fee, however, has not permitted the Commission to increase the frequency of testing or number of locations for commercial examinations since all fees collected are deposited into the general fund of the US Treasury and do not augment the agency's appropriations in any way.

As a result of the 1986 inquiry, the FCC asked for (and received on 28 September 1990) an amendment to the Communications Act authorizing it to delegate the examination of commercial radio operators to non-government organizations. The wording of the amendment is essentially the same as the language in PL97-259 except that it refers to commercial rather than Amateur Radio operator licenses.

Last August, the FCC released a Notice of Proposed Rulemaking which contemplated privatizing the administration of examinations for commercial radio operator licenses, in which the FCC said, "It continues to face resource constraints that prevent it from drafting and revising commercial radio operator examinations often enough to ensure examination integrity and from administering the examinations more than twice a year at its various field offices." The public comments closed on 2 November 1992.

Currently, the FCC has seven types of commercial radio operator certificates, licenses, permits and endorsements. A new class of license is the Global Maritime Distress and Safety System (GMDSS) radio operator's license. GMDSS is an automated ship-to-shore distress alerting system using satellite and advanced terrestrial communications systems.

GMDSS radio operators will be needed to operate the modern equipment which is just now in the process of being phased in. This system will phase out the use of manual telegraphy by 1999. The GMDSS license and most other licenses are valid for five-year terms, although the general radiotelephone operator license and restricted radiotelephone operator permit are issued for the lifetime of the holder.

On 14 January 1993 the FCC made its final ruling on the matter and approved the handling of all future commercial radio operator license examinations by the private sector. (Thanks *W5YI Report*, 2/1/93).

Visitors' licensing (PR Docket 92-154)

Comments are still being reviewed on this one and final Commission ac-

tion is not anticipated until June or July. This rulemaking suggests a novel licensing scheme whereby all foreign licensed Amateur Radio operators temporarily visiting the US would be able to operate their radios for up to 60 days.

International licensing

Steve Hutchins, KN6G, has sent additional data to the FCC on his Petition for Rulemaking (NPRM-7680) which would simplify the reciprocal Amateur Radio operating procedures.

The European Community has formed an alliance whereby each of 31 nations (basically all of Europe, Scandinavia and the United Kingdom) recognizes the amateur license of other so-called CEPT (Conference of European Posts and Telecommunications) countries. This allows visiting foreign amateurs to operate in other CEPT countries without obtaining an individual temporary license:

Hutchins urges the FCC to include language in Part 97.5(d) which will not only recognize the CEPT radio amateur license as a valid license to temporarily operate in the United States, but also to recognize the Amateur Radio licenses from all countries which have signed a reciprocal agreement with the US.

There are two CEPT license classes. Class 1 permits utilization of all bands; Class 2 permits operation on all frequency bands above 30 MHz. The call sign used is the operator's home call sign preceded by the CEPT (actually the ITU) call sign prefix. A "Table of Equivalences" relates national license classes to the CEPT Class 1 and 2.

Countries which are not CEPT members may apply for participation in the CEPT radio amateur licensing system by applying to the CEPT European Radiocommunications Committee (ERC) in Copenhagen.

Cable TV industry to fight TVI with hardware solutions

We know that the FCC is reducing its individualized investigations of interference complaints and will focus on manufacturers' responsibilities to build products that can function properly in today's busy RF environment (See "No more TVI—for them," April 1992 FCC column, and "More on RFI and TVI," June 1992 *Auto-Call*).

With this as background, the leading article in the *W5YI Report* for 15 January is that cable TV companies are now pursuing a substantial effort to study causes of TVI and recommend hardware solutions.

They are using an "opening" created by the passage of the new cable TV legislation which requires problems of cable, TV and VCR compatibility to be cleared up. The FCC has the apparent

responsibility to see that this happens.

According to Cable Television Laboratories (CableLabs), a central research house for the cable industry, direct pickup (DPU) is one of the "most damaging" problems between the cable TV system and the TV or VCR connected to it in the home. "DPU occurs for several reasons," CableLabs said in a press release. "One cause is when a tuner's shielding is inadequate to repel unwanted signals from entering a television set or VCR. These signals can be coming from a broadcast source into a set that is getting its television signal from cable service. These signals can also arise from pagers, business radios and other similar devices. This creates interference, or ghosts, in the picture." In some cases, the problems do not occur when the same TV is used without cable. "As a result, consumers frequently and intuitively (but not correctly) blame the cable service as the source of the problem," said CableLabs President Richard Green.

CableLabs' first step was to contract with Stern Telecommunications to do computer modeling and evaluation of the electromagnetic environment in which TV sets reside, so we could get a handle on what percentage of TVs might reside in areas that have high potential for interference."

Claude Baggett, the lab's director of consumer electronic systems, said, "We now must learn how susceptible TVs and VCRs are to the interfering signals at field strengths as defined in the Stern study. The first step in that process is to define, in as absolute a manner as possible, all of the test facilities, procedures and methodologies required to test consumer hardware for its susceptibility to DPU types of interference." The laboratory is now seeking proposals from test labs and university researchers to contract for the hardware study. (W5YI, 1/15/93)

Fine issued for 20M fiasco

The FCC has issued a record \$10,500 Notice of Apparent Liability to Monetary Forfeiture to Richard L. Whiten, WB2OTK, for "malicious interference to the communications of other ham radio operators." The operators the FCC says Whiten interfered with are Michael Galego, KA4MUJ, and Judith Duehring, KA1SKV, both of the anti-service net, Better Amateur Radio Federation."

The FCC's Kingsville, Texas, office had monitored and recorded a conversation on 14.314.7 MHz on 26 September 1992 and, according to the 19 January NAL, Whiten did not dispute making the cited transmissions but did deny that they "constituted willful and malicious interference."

But the FCC engineer-in-charge, Oliver Long, who issued the fine, looked at this as a simple case of Whiten interfering with other amateur communications, that Whiten has in writing admitted his guilt, and that he therefore is subject to the administrative penalty as prescribed.

The FCC gave Whiten 30 days (from 19 January) to either pay the fine or file a petition for reduction or non-imposition of the penalty. WB2OTK has stated that he has no intention of paying the forfeiture and plans to hire a Washington, DC attorney who specializes in communications law to fight the matter through the administrative appeals process, and if needed, into the federal court system. (Westlink Report, 2/18/93)

Other proceedings

William C. Wells, WA8HSU, has petitioned the FCC to reduce the number of Amateur Radio operator classes to three—Novice, Technician and General.

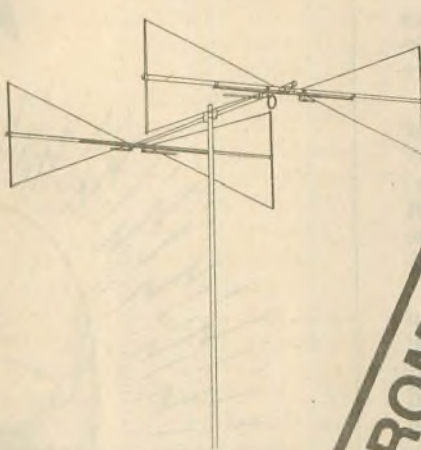
Bill Welch, W6DDB, requests additional privileges for Novices at 30M. That petition has been accepted for comment and assigned NPRM-8093.

The FCC has received input from the ARRL on semi-automatic control of HF packet.

The FCC has under consideration a request from the ARRL to issue club and military amateur call signs. There are other non-profit organizations that also wish to issue amateur call signs. (W5YI 1/15/93) **WR**

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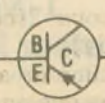
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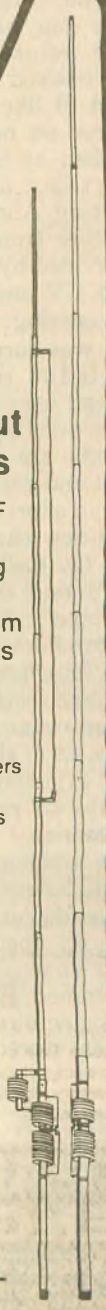
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The article, "Pre-programmed handhelds," in *Worldradio* (February '93) caught my eye and my interest, as I have been using this technology for quite some time. The concept of local and regional chips is quite interesting; however, a library of only a few would become quite expensive. As I work with both our amateur and land mobile divisions, the comment regarding dealer programming being "old-hat" technology really caught my attention, as this has been the standard for many years.

The "breakthrough over the horizon" may also be old-hat technology in the amateur field—well, at least overlooked as having a practical use, sort of like the early 80s when CAT ports on our HF radios were overlooked as having a practical use for anything other than assembly line testing. And could anything have been farther from the truth? The features provided by companies like DX Desktop, CT, and PDK, to name a few, are staggering.

I was surprised to see that the new FRG-100 receiver just released by Yaesu uses a slice of this technology. The starting point for 16 broadcast bands are pre-programmed into the unit and get the operator up and listening in short order.

Since the advent of the Yaesu FT-727 back in the mid-80s all Yaesu HTs and most mobiles have incorporated a little known feature called "Ram Port." This is a serial port which can interface to a computer for assembly line testing or field (dealer or user) programming of memories. Various files, as is the case with Yaesu radios (not expensive chips), can be sent to the radio to rapidly pre-program the memories.

A common countrywide chip (or file) could be installed by the manufacturer or the dealer for the new ham. More advanced operators could install their own custom traveling files. Pre-programmed files following the ARRL repeater directory by state or region can be stored on a single disk and sent

to the radio as desired. I prefer the file method simply because of the cost of memory chips, yet I'm sure hardware manufacturers would have a different opinion.

Programming memories through the use of Yaesu's Ram Port is quite similar in operation and hardware to

programming the Vertex, Yaesu's land mobile line. A PC, a specialized program, and an RS-232 to TTL serial converter attached between the serial port and the radio is all that is required. I do it on a routine basis out of personal need and interest.

WB6NOA's article seems to portray more than a passing fancy for pre-programmed memory, especially computer programmable memory. It's here now and has been for some time on Yaesu products. (Should we tell anyone?)

Collector's QSL

DORRICK MINNIS, KC6WQJ

What makes a QSL card collectable to you? An exotic DXpedition? A rare one from the middle of nowhere? Well, how about collecting QSLs just for the sake of art?

I was fortunate enough to have my QSL card drawn by the world famous cartoonist and cult hero, Robert Crumb.

To say that I am honored is an understatement. Robert Crumb's work is popular all over the world. You may know his "Keep on Truckin'" comic that led to the popular poster which hung in every house throughout the 60s. "Mr. Natural" and "Fritz the Cat" are other works you may recognize. Robert Crumb's drawings have been shown in the Museum of Modern Art and "Mr. Natural" is now the latest rage in the Paris fashion scene.



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You can imagine my surprise, then, when he walked into the bicycle shop where I work in Winters, California. He and his family lived in town and they all became customers of the shop. We even opened our FAX and copy machines to help him communicate with his publishers. When Noel, the shop owner and my friend for 25 years, and I asked Robert to do a "Mr. Natural" logo for the (please turn to page 20)

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Today, one QTH still stands amidst one oh'i'a and sandalwood forest.

Royal Gardens

(continued from page 1)

remained relatively unscathed, but because its entry roads came from the bottom, the top became isolated.

After that, all but one family moved out. Paul and Jean came in June 1991, after answering an ad to caretake a home that the owner still had faith in. They knew exactly what they were getting into, however. The owner had sent a video showing the lava fields surrounding Royal Gardens on three sides. They knew the closest approach was from the end of the Chain of Craters Road, which had seven of its miles covered by *pahoehoe* (smooth, taffy-like lava) flows in 1990. From there, the hike across the lava "driveway" would be a couple of miles long and there would be no services once inside. They knew the nearest store was 60 miles round-trip and that Hilo was twice that. And since lava was still flowing from Kupaianah into the ocean, they also knew that Kilauea showed no signs of slowing down.

But it was too interesting to pass up. At 39, Paul already had 20 years in the Navy as a computer specialist. Living off his retirement income, Paul and Jean caught the rain for water, and a couple of solar panels charged car batteries that ran the house. They have strong backs and, along with food, they backpacked in propane for the refrigerator, gas for the generator, and gas for the owner's car that had become trapped inside the subdivision. Strict vegetarians, they harvested the papaya and bananas

still growing on old jungle-covered properties.

They also took advantage of the low QRN. Many have wondered about the isolation, and I just mention Paul and Jean's HF work. The house soon became a homebrew antenna farm, sporting a 2M Quagi that was their only local link out, a 10M four-element



Greg Pool, WH6DT, stops at an intersection filled with pahoehoe toes.

Yagi, and a Zepp used for 20M and 40M (Paul often lamented that there were no power lines spanning the subdivision that he could use as a longwire antenna). With their Icom 735 they ran 100W of solar power from a 900 ft. launching pad and made contacts and skeds with operators all over the world.

Actually, Jean did most of the talking. Paul was in charge of radio



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Suggested Retail

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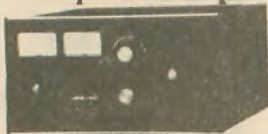
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Ameritron's Dual 3-500Z linear

Ameritron's 3CX1200A7 linear

AL-1500
\$2625
Suggested Retail



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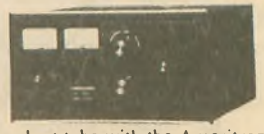
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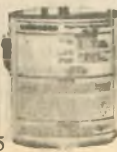
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RCS-4
\$134.50
Suggested Retail



QSK-5
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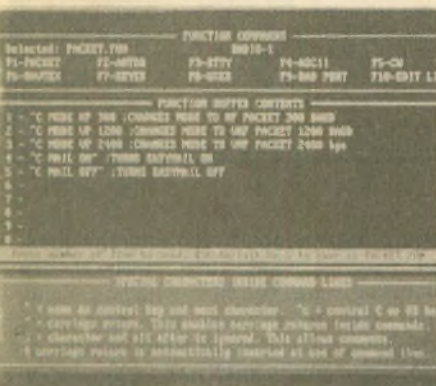
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Features in this ad uses MFJ-1278 Firmware 3.6, MultiCom™ 2.2 and VGA graphic. Features may vary with other MFJ-1278



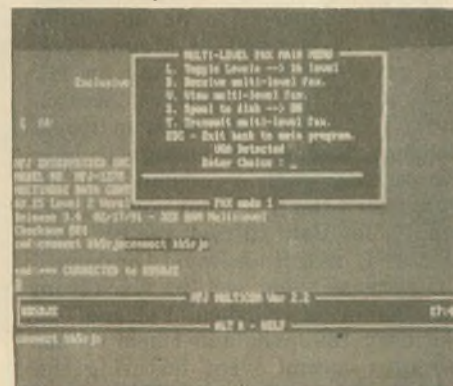
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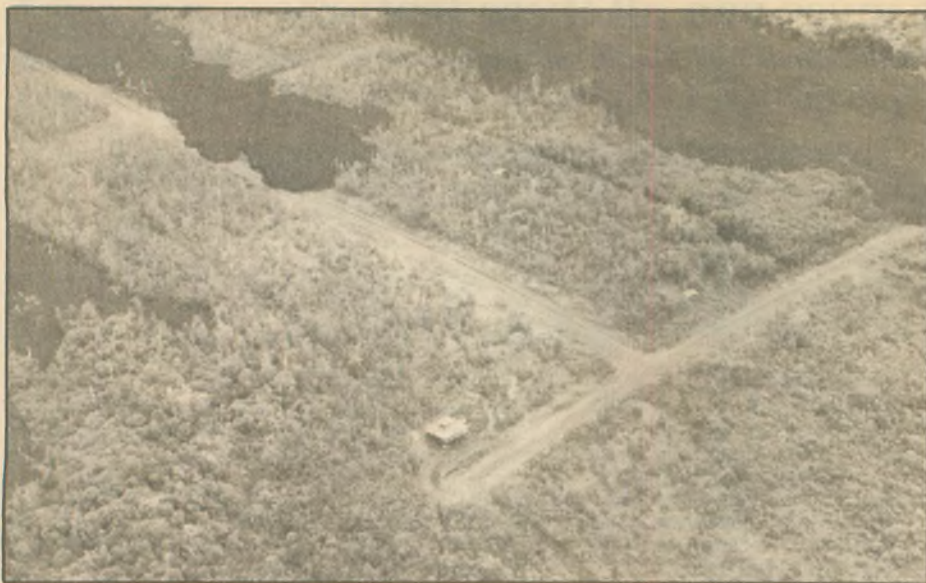
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In 1983, a'a flows surrounded the QTH in Royal Gardens, Big Island.

maintenance and many times he was the "armstrong-rotator" for the beam. Paul would also pick out the QRP calls that were down in the mud for the rest of us. Jean, with that Hawaiian call and the YL voice, gained considerable attention on 10 and 40M. When I first met her, she was a Novice, KA6SMM. Within 10 months, she had an Advanced ticket, thanks to her Elmer, W3FO. Jean would work her pileups and QSL anyone who needed Hawaii, whether for fun or WAS. She easily received her WAS award in return, along with her 10-10 VP number. Paul also had a 10-10 number, and the two would check into various 10M nets as an OM/XYL team.

Getting a QSL card from W3FO always meant you had a rare and valuable DX contact. Last December (1991), I happened to be up 13,796 feet, on the summit of Mauna Kea, and gave him a shout using an HT that ran 1W into a half-wave antenna. From just below the slope in Royal Gardens, it was hard enough to hear the repeater with a preamp and the Quagi, so a clear, simplex contact was enough for Paul to rush me his very first QSL card from Royal Gardens.

Otherwise, Jean was the voice from the flanks of Kilauea Volcano. In February 1992, she and I held an impromptu special event featuring the volcano. We made over 450 contacts in a 24-hour period. We sent out a QSL certificate and a letter full of information about Hawaiian volcanoes. We still have operators thanking us for the effort.

Jean and Paul managed to strike up many friendships, including some high school amateurs in Chariton, Iowa. The students even attempted to make the trip out, in the hope of DX-

ing from Hawaii, but ran short of funds. Despite the disappointment, they learned a great deal about both

the geology of Kilauea and Amateur Radio. Jean also regularly checked in to the 40M Hawaii Afternoon Net (0200Z,7.290) with a reassuring "Aloha from beautiful, downtown Royal Gardens!" that could be heard throughout the island chain.

Until October 1991, the hike across the flats would include detours around active pahoehoe toes; but these were very viscous and Paul and Jean could skirt them easily. On 8 November 1991, however, a small fissure eruption in between Pu'u 'O'o and Kupaianaha sent curtains of fire 10 feet into the air. The eruption created a lava pond up against the Kupaianaha lavas and, two days later that pond sent an a'a flow down toward Royal Gardens. After much consultation and insight into what was happening above, Paul and Jean evacuated their ham and personal gear to my office at the US Geological Survey's Hawaiian Volcano Observatory. They waited a few more days while the a'a flow made its way very slowly into Royal Gardens. Then the

An amateur radio special event in recognition of the

Tenth Year of Continuous Eruption Kilauea Volcano

The Kilauea Volcano has been erupting continuously since 1983 along its east rift zone. The eruptions from this basaltic shield volcano have been typically non-explosive, where lava slowly but steadily effuses from one of the two vents shown above. This is in contrast to stratocone volcanoes like Mt. St. Helens. In its wake, Kilauea destroyed the village of Kalapana and made isolated the subdivision of Royal Gardens, the SE QTH.

SE OPERATOR	STATION	DATE	UTC	MHz	RST	VOLCANO#

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plumbing upslope failed and the channel feeding that flow drained. By Thanksgiving, the flow was *pau*, done. Paul and Jean never had any more problems with lava in their backyard.

W3FO and WH6DZ have now returned to the mainland and are traveling around Canada and the United States in an RV. Jean will be active on 2-80M throughout their travels. If you hear her on, say Aloha and talk story about their stay on the world's most active volcano. Don't forget to send a 73 to Paul, though, who will be in the background, pulling your call out of the noise and making sure Jean sounds so darn good.

The care and feeding of QSL managers

Suggestions to improve your QSL returns

RALPH HIRSCH K1RH

The following, submitted by Bob McCourt K14RU, is reprinted from The DX Magazine. Bob maintains a database of more than 40,000 QSL routes and is delighted to help anyone he can. His address is 507 Highland Dr., Eustis, FL 32726. All he asks is an SASE.

Of all the unsung heroes of the DX world, the QSL manager undoubtedly ranks as number one. Too little credit is given to the guy (or gal) who sweats over unintelligible handwriting, or tries to fathom what the sender had in mind, while the DX operator has all the fun. However, the QSL manager is a most important part of DXing, often saving the avid DXer many weeks of biting his fingernails off up to the elbows awaiting the arrival of a card for a rare country, or saving him a considerable sum in the cost of IRCs and postage. So, in return for his service to you, why not make his life a bit easier! Some of the pet peeves of DX QSL managers are listed in the following, although not necessarily in order of importance.

1. Print or type. What is legible to you may not be legible to someone else, especially someone who has little knowledge of English.

2. The date/time guessing game. All DX logs are kept in universal coordinated time (UTC), formerly called GMT, GCT or what-not, and identified by the time zone "Z." Why do some DXers feel it is easy for the QSL manager to figure out what they mean by 10:30 local? Is this a.m. or p.m.? What time zone are they in? Daylight or standard time? The prefix of the call means nothing anymore with W2s living in Florida and W6s in Maine. So always use "Z" time and remember that the date changes at midnight UTC, not at midnight local time.

If you have a QSO at exactly midnight following 2359Z on 1 July, then say 2400Z on 1 July. If you wish to refer to it as 0000Z, then say 2 July. Better still, fudge a minute and say 0001Z 2 July. You won't be missed in the log by one minute. You have no idea how many times I find the given time off by one hour either way, or by one day, plus or minus.

3. "Did he get my call right?" It is easy for the DX station, in the midst of

the QRM, to miss one letter of your call or to receive it incorrectly. If you think that in the confusion he might have one or more letters wrong and have an idea of what he thought you said, put in a little note on the card giving all information. For example: "I think you got my call as K1RS." Many times you will get a card that way, instead of a statement that you were not in the log.

4. "Why should I pay the postage?" DX stations need another W or VE card like they need a hole in the head! Like all other things in life, if you want a QSL from a DX country you need for DXCC or other awards, you must be prepared to pay for it, or wait for a year or so for it to clear via the Bureau. So, don't send an envelope with your name on it without postage either in the form of an affixed stamp or with IRCs enclosed. Don't send one (1) IRC and expect airmail service. It takes at least two IRCs for airmail in most places in the world. As a matter of fact, Italian Air Mail now costs three (3) IRCs. Some take even more. Don't send a stamp and expect the QSL manager to furnish and address an envelope for you. He has neither the time, patience nor inclination to do that. If you really want a QSL faster than you can get it through the Bureau, send a self-addressed, stamped envelope (SASE), or in the case of QSL managers outside the US, send a self-addressed envelope (SAE) with the proper number of IRCs, or a "green stamp" (US dollar bill).

Never, never, never put call signs, either yours, the QSL manager's, or the DX station's, on the outside envelope. In many countries, this is a red flag indicating money or IRCs are inside, and there goes your QSL!

Finally, when you do insert the SASE or SAE in the envelope you are going to mail, think about how it will be opened. The QSL manager will insert a letter opener along the top edge and slit

it. If you have placed your SASE or SAE inside with the folded edge at the top, BINGO, you now have two halves of an envelope. Always place the open end upwards so it doesn't get slit. Fold the SASE or SAE once, in the center if you used the small-size inner envelope. If you use a #10 business-size SASE or SAE, make two folds along the length.

5. "I don't need to send a separate card for each band; one card with six QSOs from different bands will do just fine!" When making out QSLs for a rare DX station or a large DXpedition, logs are usually sorted into dates and times, to make it easier to find contacts, or they are divided into groups for a single band, especially for contests. Your chances of missing out on some band are lessened if there is a separate card for each band. Sending a separate card for each band costs both you and the DX station a bit more, but it sure makes life easier for the DX QSL manager.

6. "Gee, he never sent me a card!" If you hear about others getting cards from the same QSL manager to whom you sent your card, but not you; wait a while and then send him another with a note explaining the facts. Letters get lost in the mail, and QSL managers, just like other hams, are human (more or less) and make mistakes. He will be glad to get your second request and get a card to you. Most QSL managers don't bite, they just sound mean.

7. "What can I do to make life easier?" For one thing, during contests, if the DX station gives you a number, please include it—the DX station's contest number, not the number you gave the DX station. If your time is off, it makes it much easier to locate the log entry by using the number.

Also, when giving frequency, don't just say 14 MHz or 20M. Give the actual frequency of the transmitting station, for example, 14.006 or 21.267 MHz. The rationale behind this is that, if you do show an incorrect time, knowing the frequency will greatly simplify the search by the QSL manager for your contact. For example, the DX station could have been on 14.235 MHz from 0930Z until 1210Z and then shifted to 14.190 MHz from 1215Z until 1600Z. If you claim a contact on 14.190 at 1130Z it becomes rather obvious that, if no log entry is shown for you, then you probably meant 1215Z and it gives him a clue of where to search. Knowing the exact frequency makes searching much less time-consuming and, believe me, QSL managers do search for calls with erroneous times and dates.

8. "What a nice QSL card I have!" Yes indeed! It does look great with your call and other goodies on the front, and your name and address on

TNT Today's No-Tune Multiband Antenna

No tuning. No knobs to twist. TNT is No-tune on 80 cw, 40, 20, 17, 12, 10. TNT/2 is No-tune on 40, 20, 10. Work other bands w/ tuner. DX & Gain rise w/ frequency.

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Technote 126-5695 ppd.

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the back. Now, all the QSL manager has to do is remember the call from the front, turn the card over to see what the date and time of the contact was, look it up in the log, forget your call, turn the card over again, and so on ad infinitum.

If you are going to print your name on the reverse side, would it not be just as easy to have the printer also print your call? If you have a two-sided card with the data preprinted on the reverse, and your call and address on the obverse, then get a small rubber

stamp made with just your call and stamp it on the reverse. It would save man-years of work for busy QSL managers.

9. Where does this guy get off telling me what to do and how to do it?" As I said earlier, QSL managers are the unsung heroes of DXing. After handling thousands of cards, compared with the few hundred you may have sent in your time, he gets to know only too well the great loss of time, patience, and energy expended in searching for a contact, because the non-DX station

never took into consideration what happens to his request for a DX QSL when it gets to the QSL manager. Supply all the information needed, make legible and remember that you are requesting the card as a favor, not as an God-given right, so don't expect the QSL manager to guess at what you meant, address envelopes for you, pay postage which you failed to send, or translate your local time into UTC. The easier his job, the faster you will get that much wanted card! —*The DX Magazine*

QSL via the bureau

DAVID REITH, W8HFY

Outside of "You're 59(9), OM," probably the most popular phrase on the HF DX frequencies these days is "QSL via the bureau." This process has assumed an almost legendary mystique that intimidates many new DXers because of its supposed gridlock and inability to be functional. For example, a fellow member of one of my clubs quips that this usually comes out on CW as via the "BURO" but perhaps more accurately should be via the "BURRO" because of the inordinate time required to exchange QSLs by this method. QSLing via the bureau is definitely cheaper than mailing cards directly—about two percent of the direct cost—but the tradeoff is that it is indeed a much slower process and a gamble as well.

What are the real facts behind this kind of QSLing? While I do not receive the volume of QSLs that the big guns and contest stations obviously get, I do maintain detailed records of my QSLing practices, both via the bureau and directly, and can make some objective statements about the situation. I generally send a card to stations from whom I do not have a card and have averaged a little over 100 cards per month of outgoing QSLs for the past four and a half years, and generally receive at least one envelope of incoming cards each month from the W8 bureau in Columbus, Ohio. Let's look at two different aspects of their return.

From July through October, 1992 (four months), I received a total of 358 cards, representing 78 DXCC countries (the actual number of DXCC bureaus was slightly fewer because some cards were from DXpeditions and mailed from the operators' home countries, e.g. a 5B4 card that came from the German DARC). By month, 67 came in July, 168 in August, 106 in September, and 17 in October.

Of the total number of cards, seven

were for QSOs made in 1988, 42 were from 1989, 95 were from 1990, 181 were from 1991, and 33 were from 1992. Thus, you can see that the best bet for getting a QSL card via the bureau is probably somewhere between one and two years after the contact. Furthermore, 77 of those cards, or not quite a quarter, had "Pse QSL" marked on them, indicating that the operator had not yet received my card and was QSLing on his or her own (which I refer to as an unsolicited card).

On the other hand, 182, or almost exactly half, were marked "Tnx QSL," indicating that the operator sent his card only after receiving my card and request for his or hers. The most recent QSO for which I received a card was 13 May 1992 (marked "Pse QSL"), and the QSL with the quickest turnaround (marked "Tnx") was for a QSO on 22 February 1992; to be accurate, both of these cards came in the October envelope. Other cards were not marked either "Pse" or "Tnx" QSL.

Included in these cards were three incorrectly delivered. I occasionally receive cards for stations whose calls are very similar to mine, and I either mail them directly to the operator or

return them to the W8 bureau when forward additional envelopes of stamps. In addition, there were four SWL cards from Russia, the Netherlands and France. Four other cards were my own, being returned; the reasons: not a member of that country's bureau, Silent Key, or "not interested"!

A second aspect of bureau QSLing practices was examined through review of my logbook; rather than simply noting characteristics of recently-received QSLs, I wanted to know how successful past QSLing had been. Upon receipt of cards each month, I verify them in the log, highlighting the B in the sent column if it is a "Tnx" card, highlighting the received column if it is a "Pse" card, and noting the month of receipt for a card.

Recently I selected at random April 1990 as a period to see what kind of returns I am getting on bureau cards. All QSOs for that date are at least two years old and have presented a reasonable time to get a reply. Of the first 200 QSOs I examined for which a QSL had been sent to the bureau, 119 or nearly 60 percent, had been confirmed. That figure is consistent with other such studies found in the DX literature. I would expect that figure to rise slightly as additional cards come in during the months ahead. It would be interesting to track bureau QSLs by anniversaries of the QSO, i.e., percentage received one year, two years, three years, etc. after the QSO.

If you are new at DXing and bureau QSLing, here is a scenario of what to expect: In about six months, you will start receiving a handful of unsolicited cards sent by operators who want your QSL. In about a year, turnaround cards will start trickling in, become substantial over the next year, and then dwindle after two years. Obviously, however, if you QSL regularly and get cards in the pipeline, the process will result in a continual flow of cards.

(please turn to page 70)

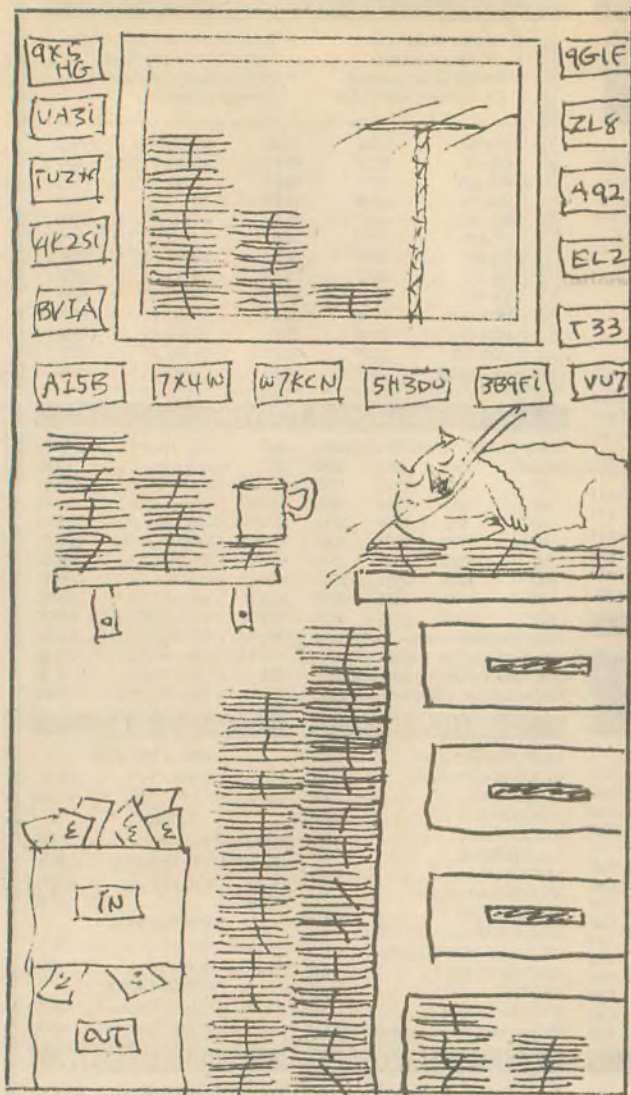
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All those cards

These suggestions may help not only me, but all the other suffix managers who hate to toss out unclaimed cards. As for my K hams, I prefer they write direct to my *Callbook* address rather than the Area 7 bureau. Any others should write their respective bureaus if they DX at all!

Many managers will provide manilla envelopes for 5¢, while some stores charge 15¢, so try sending postage and address labels to start, and they'll let you know how they want to run their suffix section. I can save my K group postage by providing whatever envelopes fit their cards, and never charge more than 5¢, even if I have to send them in a box. A volunteer in Area 6 provides the envelopes free, as the system he uses saves time that way.

So it helps to ask first, not just send in a bunch of 6 x 9 envelopes that may not be wanted and will only hold four or five cards for 29¢ because they're

too big. I can get even 8 oz. of cards in a 5 x 7, and you have to DX a lot to get that many in one month. But sometimes, like now, I get stuck holding 10 pounds or more for one

QSL

(continued from page 12)

shop, he was happy to do so. It's been a great success; we put it on T-shirts and water bottles and we supply collectors all over the US and Europe.

Then I envisioned having my QSL card done by Crumb. When I asked him about it I learned that he and his family

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Suffix Manager's Lament

QSL cards are all over my shack,
 Even under the cat, to file or stack.
 Your stamps I await, whether postal or green,
 For after DXing, you should have foreseen
 That cards would arrive through the Bureau Machine.

To some I've sent notes and asked you real nice.
 You send no reply but I need your advice.
 Your pileup of cards could paper a shack,
 But psychic I'm not—I don't have the knack,
 And if used for that purpose you won't get them back!

Amateurs foreign are wondering why
 They've sent you their card with none in reply.
 Are you laid up in bed, or perhaps broke your arm?
 Or maybe you've gone to the state funny farm.
 I'm worried too! Is there cause for alarm?

Shall I make a long list to send overseas?
 "These won't QSL so don't send any, please!"
 Working new lands is a challenging game,
 And it's fine if you contest, but I feel some shame
 If you don't QSL, giving all a bad name.

I'm thankful for those who send postage and labels,
 Then patiently wait for their cards as I'm able
 To sort them and mail, whether two or ten score.
 Those hams are the greatest! Of them I need more!
 I'd nominate one for Ambassador.

Bernice Peterson, N7MUC
 K suffix manager, Area 7

ham, and five pounds for another, and three pounds for somebody else, plus all the monthly unclaimed cards. Help! Thanks!
 BERNICE PETERSON, N7MUC

were preparing to move to France, and he had already packed his art supplies and was far too busy getting ready for the move. I went from asking to begging, but he still wasn't agreeable.

Then I explained a little about Amateur Radio and what exactly a QSL card is and why it's important. He agreed to do my QSL at last.

I had only 1,000 cards printed, and I've numbered each one of them and log where they all go. If you'd like to acquire one of these special QSLs, just contact me on the amateur bands! I spend my working days monitoring the bicycle shop base station on the N6NIC repeater system which covers most of Sacramento, the Bay Area and Lake Tahoe -147.195. I can also be found often on the 10M Novice bands. WR

Battle of Cutler Ridge

(part II)

This detailed account of Hurricane Andrew relief began in Worldradio's March issue.

ALBERT J. GEHA, KF8JQ

I quickly came back to his call, we exchanged a couple of short messages and he agreed to call my XYL. Soon after, Dan, KE8UE, showed up on the frequency. Dan arranged through his friend Paul to send additional HTs with Dr. Crawford through Toledo Hospital Office of Communications.

2215. It became too late in the day to send us anywhere. Some DMAT members were beginning to wonder why it was taking so long to deploy our team. I think the emergency management authorities were truly caught off guard with this one; they indeed were scrambling to get control of the situation, and they were at that point in the infant stages. When we arrived at Cutler Ridge, the military had only been there four days. They were working as fast as could be expected considering the devastation that had occurred. They were hindered with not only limited communications but also some civil strife, and security concerns grew as time went on.

We ate dinner at the Dade County Fire Department (much better than MRE). They provided food for the relief workers—Creole rice and chicken (very good). We took showers in a makeshift outside shower, a couple pieces of plywood with a blue tarp covering the entrance. Water was provided by a fire hose. It was cold but very refreshing.

2 September

0830. I went to the radio shack with Jim, N8DST, and tried to make contact with Toledo but to no avail. Upon our arrival back to the municipal building, we were told that we must move outside and erect our tents across from the library. It was now about 90 degrees and it was not yet noon. Soon after the tents were up, people were coming to them for first aid. We had begun treating patients, when the local TV media showed up.

1530, I contacted Dan, KE8UE, and he said that we had four additional HTs on the way. We still had no definite assignment; we were just treating patients who came to the tent. The word spread through the media that we were giving first aid, and more patients came.

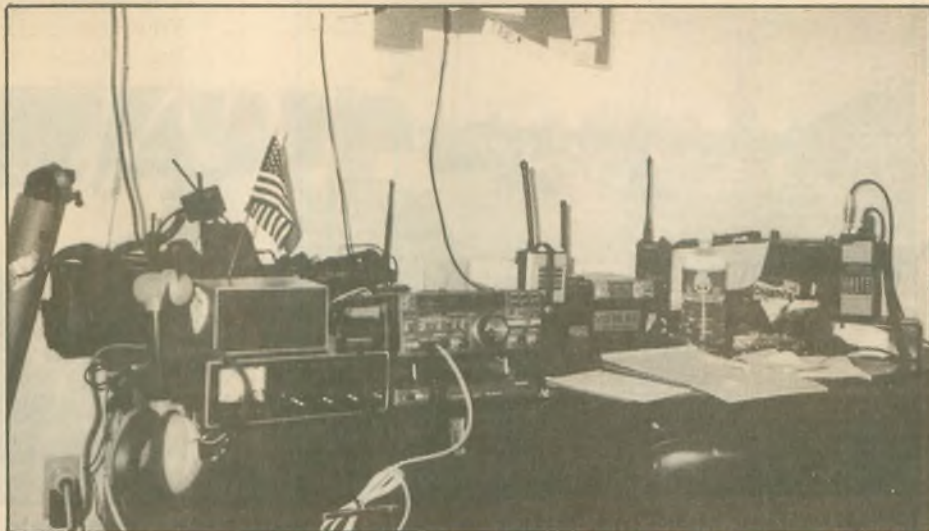
We slept in the tents for the first

night. We had effectively sprayed ourselves down with insect repellent, but the choppers and mercury beam lamps were annoying. Luckily I had the first

fire watch. I finally dozed off about 0430.

3 September

0600. Plans changed at NDMS headquarters—they announced we would be deployed to two clinics to relieve the New Mexico DMAT. We were also requested to set up a field hospital to help



The DMAT net control station was small but equipped.

HTs, HTs, HTs ...



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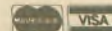
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the 82nd Airborne, close by the clinics. Churton, our executive director, rented a van and took me and a couple others to those sites to plan the logistics for supplies, communications and efficient deployment of personnel.

One clinic was at Perrine, a small

flat edge of a down-spout. I could hit the Ft. Lauderdale repeater at this height using my Yaesu 727R on low power. Antennas erected and ready to go, the coax cables were fed through a boarded up window that was directly above the radio shack. The New Mexico hams had

was eager to tell what happened when the hurricane hit.

One story related how two police officers were seen immediately after the hurricane driving down a residential street, and though everyone thought that help was on the way, the police officers were really disoriented because there were no street signs or any recognizable physical objects standing. They were counting streets to find their way to the main highway.



KF8JQ attends an 82nd Airborne medic adjacent to one of the field hospital sites, where hurricane victims rummage through donated clothes.

building in the heart of the worst and most treacherous looking ghetto I have ever seen. According to the rumor, the gangs in command of the area allowed the 82nd Airborne to operate the clinic.

The second clinic, where I would be stationed, was a hospital-like setting with an emergency room, a complete lab and out-patient clinic, referred to as Community Health Institute or CHI. It was not a bad facility at all considering the damage sustained from Andrew.

We wasted no time in assessing what needed to be done and where things were to be stored etc. I met the amateur operators with the New Mexico DMAT and they filled me in on all the details. We climbed up to the roof to see where I could mount the G5RV.

This was an ideal location to string the G5RV. We strung each insulator to a cinder block and had more than enough room to stretch it taut. The 5/8-wave 2M magmount was placed on top of the

already punched out a hole in the wall where coax cables came into the small converted examining room that now was the radio shack/command center.

4 September

At 0930 we struck the tents across from the government center, loaded the pallets and set off for CHI.

Unpacking and setting up equipment went very smoothly. The few regular employees left at CHI were congenial and happy for us to be there. The transition went well and the New Mexico team left within the hour. Everyone

5 September

The day started out to be an extremely busy one. The command center function was to act as a funnel from the MSU to our facility and to our field hospital. All incoming and outgoing was through the command center. That meant I had five radios to monitor. The main radio was from the Wildlife Service, in the charge of the MSU. The military also used this radio frequency to a great extent. My personal radios were used in simplex operation in our facility. The trauma nurse carried an Icom 24AT, our personal security person carried the Icom 2AT. I also monitored 146.925, the Red Cross and 82nd Airborne. Finally the CHI maintenance personnel had their 440 frequency that also had to be monitored. The low-band rig, a Yaesu 757GX II, was to keep in communications with Toledo.

Our first real trauma arrived, 1100 MSU radioed that a roof had collapsed on a nursing home, and we would be receiving three "red," four "yellow" and five "green."

One of the victims was covered with fire ants. They had been lying under rubble for some time before they were noticed. We med-evacuated one and treated the rest.

Later that afternoon MSU alerted me that we would be receiving a small baby that had just ingested kerosene. Apparently kerosene was commonly used for lamps. We received many related injuries, such as lacerations from chain saws, many burns from candles and wax, injuries from domestic violence (the result of despair and frustration), people falling off roofs and stepping on nails, and bites by every conceivable creature in the entire state of Florida.

At 1737 I contacted Dan, KE8UE, on 20M, and updated him on our progress. He called my XYL to let her know I was alive and well and still fighting the "Battle of Cutler Ridge."

Things slow down a bit around 2240 some strolled over to get some fresh air outside the emergency room door. The Goodyear blimp was up with a large marquee giving instructions to those afraid to venture out—where to get medical help, water and food, as well as

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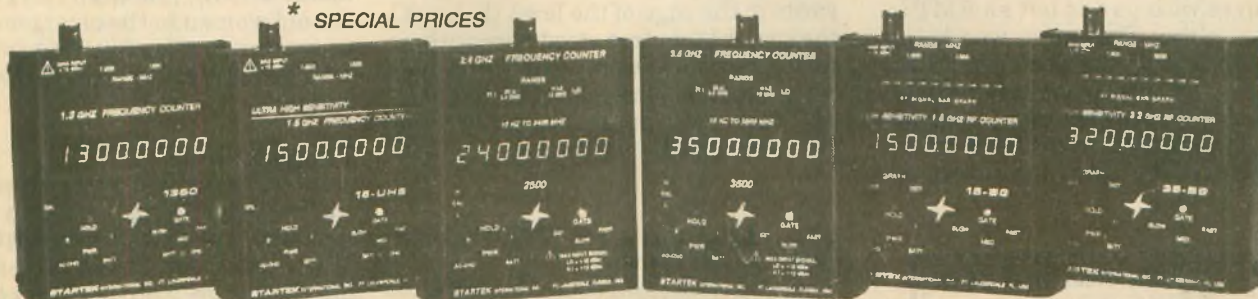
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a reminder of the 2100 curfew. All eyes were trained on the blimp when we suddenly heard gunfire across the street from the track-row of houses. As I dashed inside I noticed the Airborne guards quickly don their riot gear and flak jackets. I didn't step outside at night again for the duration.

6 September

I compiled and radioed in the evening status report to MSU at 0730. Churton arranged for someone to monitor the radios for a short period so that we could visit the outreach locations.

We visited the field hospital at the Cutler Ridge Elementary School; the spartan crew consisted of one doctor, two nurses and one maintenance man who was busily constructing walls for a makeshift pharmacy. There was a small crowd of women and children rummaging through two large cardboard boxes full of donated clothes.

Inside the tent a doctor was suturing

transport them by Black Hawk helicopter.

We went back to CHI. Upon our arrival the MPs were taking a little excursion to "the boat." This was the photographer's envy to be able to get close shots of this large 120 ft. vessel which had been carried from 1 1/2 miles out from the ocean and onto shore by a 20 ft. tidal wave during the hurricane. The wave carried it 600 feet inland and it lodged itself against two trees not more than 30 feet from the back door of a mansion.

Our Hummer vehicle turned onto the drive that led to the twisted wrought-iron gate of the mansion. The remains of a banyan tree lay in the middle of the circular drive. It was mammoth, all the leaves were gone and remnants of it lay stacked on the edge of the driveway.

We walked to the back of the mansion and were suddenly struck with the view of this awesome structure that seemed so much out of place. There were large

and only bird I had seen since we arrived in Florida.

The wind whistled through the shreds of a remaining home on the water's edge, creating a very eerie feeling. The mansion itself suffered tremendous damage and was almost gutted. Walking through the home we saw evidence of a magnificent and richly decorated dining room with the crystal chandelier still hanging. There was broken furniture and what appeared to be priceless antiques strewn all over the hardwood floors. It sustained damage from four feet of sea water before the storm subsided. The small wooden one-person elevator was at the head of the second floor staircase. Out front the Mercedes was parked in the untouched garage; the wave had carried it from the driveway to the street (100 feet) and back to the driveway. We'd seen enough. We climbed aboard the Hummer and drove back to CHI.

Everywhere people were working on their homes. People were on their rooftops fastening down plastic tarps, or sifting through the debris on their lawns. Some looked as if they had never used chain saws before. The sounds of portable generators, passing helicopters and chain saws were all that were heard until after dark. Late at night the silence was louder than all the noise put together.

It was early evening when we arrived back at CHI. Two MPs were trying to talk with an elderly Spanish woman. She sat there with clenched fists, striking her forehead and knees and talking a mile a minute. A friend had brought her for treatment, but she was afraid because INS was searching the area for aliens. We were told first-hand that indeed INS was around but was not arresting anyone, nor did they intend on challenging any of the Hispanic peoples.

Finally a Spanish speaking DMA member, Polly, happened by and rescued us. Polly assured her that we would not allow anyone to harm her or arrest her. We practically had to carry the old woman to the emergency room to see the doctor. She had intestinal problems, probably from drinking the water.

7 September

0700: There was surprisingly little traffic this morning, nothing during the night. I sent the morning report to MSU, and received two messages from the clinic administrator from the Red Cross via 2M concerning emergency medical supplies. I relayed the messages to the administrator on the way to the dining hall; it was my turn to help with KP. Jim Fenn, N8DST, and I decided to cook a big breakfast for the



A 20 ft. tidal wave hauled this freighter in nearly two miles to the back yard of a mansion just outside of Cutler Ridge.

a laceration sustained on the left temple of a volunteer roofer. We took one of the nurses with us and left an EMT to take his place. The nurse was being sent with one of the doctors and an interpreter to a migrant camp in the Everglades. There were many migrant workers who were in need of immediate medical care. The 82nd Airborne would

gashes in the lawn where the ship had been dragged. We walked some 200 yards to the edge of the lawn that met the sea. A large tree stood bare with a weather-beaten Osprey perched on one of its remaining branches; it screeched and flew away as we approached. It dawned on me then that that was first



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team and the 82nd, as it was our last full day of work since the Atlanta DMAT would be arriving to relieve us.

The Atlanta DMAT arrived at 1130, and we showed them around. It was as if we'd been there a year or so, I sensed a feeling of possessiveness. This fresh group was taking over what we got running. They certainly were not lacking of equipment and supplies, particularly the radio operator and his electronics' technician. The equipment was neatly organized in trucks that opened up into stand-up cabinets full of drawers. The drawers were full and would put AES to shame. They had two HF rigs, six 2M rigs and four 440 radios. Besides a G5RV they had a vertical. Also, they carried with them dualband quarter-waves. Needless to say, they came prepared and they meant business.

At 1330 the MSU, as a reward for our efforts, sent us to Miami Beach for two hours of R & R. I never thought of packing a bathing suit so I rummaged through the box of donated clothes and found a pair of khaki shorts. I was shocked to find that I now fit in a size 36 waist.

The bus ride to Miami Beach was as if we were in the third grade on our way to Camp Chip-a-Monga. We must have sung every song in the repertoire of camp songs. As we came closer to Miami the only damages we could see were downed trees, not much else. Everyone was relieved, and we all felt that we had done something very good. The camaraderie was strong by now and there was an affinity among the DMAT members.

The beach had just been reopened after Andrew due to pollution. They told us that it was generally cleaner, without as much seaweed washing ashore. The water was warm and extremely salty.

On the beach there is a place called "Pinrod's" where we enjoyed a breathtaking view of the ocean as we sipped beer and ate oysters on a half-shell. A storm moved in over the water, and it was awesome to see it from this vantage point. It was almost curfew and we began to wander back to the bus. It was our last night at CHI.

8 September

We began dismantling antennas at 0800 and packed the radios for shipping. This took most of the morning. Personal gear was next. By 1400 hours everything was packed. We moved everything to the loading dock to begin stuffing the semi. It took the remainder of the afternoon to load the truck. Everyone helped and everyone was exhausted. The heat and humidity drained us rapidly. Those who could not physi-

cally help load kept the drinking water and juices coming. Finally loaded, we bid farewell to our friends at CHI and boarded the buses for Miami Airport.

People in the airport walked up to us and thanked us for coming to help. We were not expecting that, and it made us feel good that we were able to have some positive effect on such a dismal situation. We practically filled the en-

tire flight to Toledo. The remaining passengers joined along in our gaiety on the flight home and appeared to enjoy it more than we did.

Upon landing in Toledo we noticed several people peering out at the runway from the terminal. The other passengers got off first, and we were then greeted with a tremendous welcome by our families and friends. WR

Land of Dahs

(continued from page 3)

"I would like to speak to your governor, or someone in authority, on a subject that could be of great interest to all of you."

Do you want then to talk to the Dits or the Dahs?" he asked.

"Both," was the reply.

"Well now, that being the case it would have to be at two different times, and two different places. Who do you want to see first?"

"I want to talk to both of them at once." Esrom responded, a little irritation showing in his voice.

"Well, that's up to you, if you can pull it off, but I wouldn't be too hopeful, if I were you." The stationmaster wrote on a scrap of paper and pushed it toward the stranger. "Them's the addresses of both parties, good luck!" he added.

"Much obliged," Esrom replied.

As he turned to go, the stationmaster called after him. "Say," he said, "If it's any of my business, what are those three Cs for?"

"Well, it's a business card, so I guess it is your business. The first C stands for communicator, the second for coordinator, and the third for concatenator."

"Well, I guess everybody knows about the first two, but what the heck is a con-ah-con-cat-er-ater?" he stammered.

"Concat-ten-ator," Esrom corrected. "A concatenator takes a jum-

ble of words, or thoughts that don't mean anything by themselves, and puts them together, end to end, so that they take on meaning. That's what I do best," he answered proudly. "Again, my thanks, and good day to you."

All eyes followed him as he left the station and crossed the street to a solitary hotel which served the Dit and Dah communities, and an occasional itinerant. He noticed that the centrally-located lobby was flanked by two identical doors, above which were inscribed "IT" and "AH," respectively. The desk clerk, who obviously served in many other capacities, greeted him with a friendly smile.

"Looking for a room?" he ventured.

"Yes, and more," was Esrom's reply, "Two rooms, in fact."

"Well, we can put you up alright. But what about the second room?"

"I will be requiring a medium sized meeting room, big enough for perhaps 10 or 20. Do you offer such a convenience?"

"Why, yes. Actually, we have both sizes in one room."

"How's that?"

"Our meeting room is two adjacent rooms, with a sliding divider. It can be either two small rooms or one large one. The divider comes right in the middle between the Dits' and the Dahs', but if either group needs more room we can turn the whole place over to 'em."

"Well, that just could come in handy," Esrom said, thoughtfully. "I'll take a single room for tonight and let you know as soon as I can what my further requirements will be.

"By the way," he went on, "Why are there two doors, one on either side?"

"One door leads to the Dits' side, and the other to the Dahs'. A Dit would rather stand in the rain than

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share a room with the Dahs, and t'other way around."

"Which are you?" Esrom asked.

"Neither. Was raised a hundred miles down river, just come here for this job, and always stay in this hotel—neutral ground, you might say. Take your bags? Your room is next one down."

"Dit or Dah?"

"Neutral, for city folks," the clerk added with a slight chuckle.

"Before you go," Esrom put in, "is there someone around here whom I can hire to drive me to my appointments—somebody who knows his way around?"

"That's easy, Mr. Esrom—"

"You can call me F.B., everybody else does."

"All right, F.B., as I was about to say, there's a one-man cab company, name of R.F. Driver. You can usually find him, between fares that is, out by the station. He'll be glad of your business."

Esrom looked around his room, finding it comfortable in a rustic sort of way. After unpacking and hanging up some of his clothes, he left and headed for the station. As he crossed the road a small cab, bearing the faded letters, "R.F.D. Cab Co.," drove up.

"Hello!" Esrom sang out.

The driver reined his horse to a stop and leaned out to see who was hailing him. Esrom made his way over to the rig.

"Hear you're for hire," he said, pulling out the paper that he had gotten from the stationmaster and handing it to the driver. "I want to go to each of these places sometime tomorrow. Can you drive me?"

"Waal, guess I can, that's if I don't get any other fare first." He handed the paper back to Esrom and remarked, "Wanna see 'm both, eh?" There was a chuckle in his voice.

"Yes, I hope to," Esrom said earnestly.

"Well, look me up here—abouts when you're ready," R.F. replied. He whistled to his horse, slapped the reins and drove away.

Next morning dawned fair and comfortably warm. A faint tinge of red on the maples along the riverbank sig-

naled the approach of autumn. After a hearty breakfast at the inn, Esrom picked up his portfolio and headed toward the station.

"Good morning, Mr. Esrom." It was the cheerful voice of the station master. "Saw you talking to Driver yestiddee, was he of any help to you?" "Guess he will be, and you don't have to call me Mr. Esrom, F.B. will do fine."

"Right, sir, I mean F.B., please excuse my curiosity, but how is your plan to talk to both governors at once coming along?"

"I've got an idea."

"What?"

"Too soon to tell. You'll know in due time. That's my cab out there. I'll be in touch."

As Esrom approached the cab, he took two letters from his waistcoat pocket. Holding them up he spoke to the driver. "Can you deliver these right away? It's very important that I hear from both today. There's an extra bonus if you can deliver both before 10, and more if you can get replies back to me by noon."

The words "extra bonus" had a catalytic effect. "Yes sir," he responded.

"Report to me at the hotel as soon as you get back. There's a dime, and you'll get the rest after you make the deliveries."

Later that day, the governor read the card, proffered by his secretary. "That's the man who sent me the note this morning. Says he's got an idea that'll really put Ditland on the map. Probably some cockamamie scheme, but won't hurt to just listen. Send him in."

Following introductions, and apurtenant formalities, the two men sat down to talk.

"Now, what is this scheme of yours, and how is it going to benefit my people?" was the governor's opening.

"I'll get right to the point. I have

developed a device that can send messages instantly using electric impulses. The sender controls the electric current with a switch, which we call a key, and the receiving operator can decode the message by listening to the clicks of his sounder. The two stations can be miles apart. For example, one of your merchants could send an order to a supplier in the city in the morning and have the merchandise on the noon train.

"And that isn't all. The railroad is interested. They have already agreed to let me place wires along their right-of-way. That way they can tell in advance whether the train is on time or, if late, just how late. Think how that will save your businessmen the cost of paying a driver to hang around waiting for a late train, or an empty one!"

"Well, where do the people of Ditland come in?"

"To begin with, I would like to schedule a meeting with you and your council, as many as can make it, let's say tomorrow night at the hotel—say seven p.m.?"

"You sound like a man who isn't about to take no for an answer," the governor replied. "It's short notice, but yes, I'll be there, and I'm sure my council will be interested enough to attend."

The two men shook hands and Esrom departed. As he left the building, R.F. drove up and opened the door of his cab. "Right on time," he noted, "We can just about make it to the Dahs in time for your other appointment."

When Esrom got back to his hotel, the train had just pulled in. Two men dismounted and looked around. Esrom crossed the tracks to the station. The stationmaster hadn't missed a trick.

"Friends of yours?" he asked.

"Yes, these are my assistants; meet Quincy R. Power and Charles W. Riggs. They came all the way from the city to help with my presentation."

"What presentation's that?"

"You'll see, tomorrow, maybe," was F.B.'s reply.

The three men walked toward the hotel, chatting excitedly all the way but, strain as he may, the stationmaster couldn't make out a word.

By morning, news of the meetings was all over town, but since the Dits never spoke to the Dahs, and vice versa, it never occurred to anyone that two meetings were to be held side-by-side, and at the same hour. Still, curiosity ran high, and when evening came not only the governors and their councils, but many townsfolk and two

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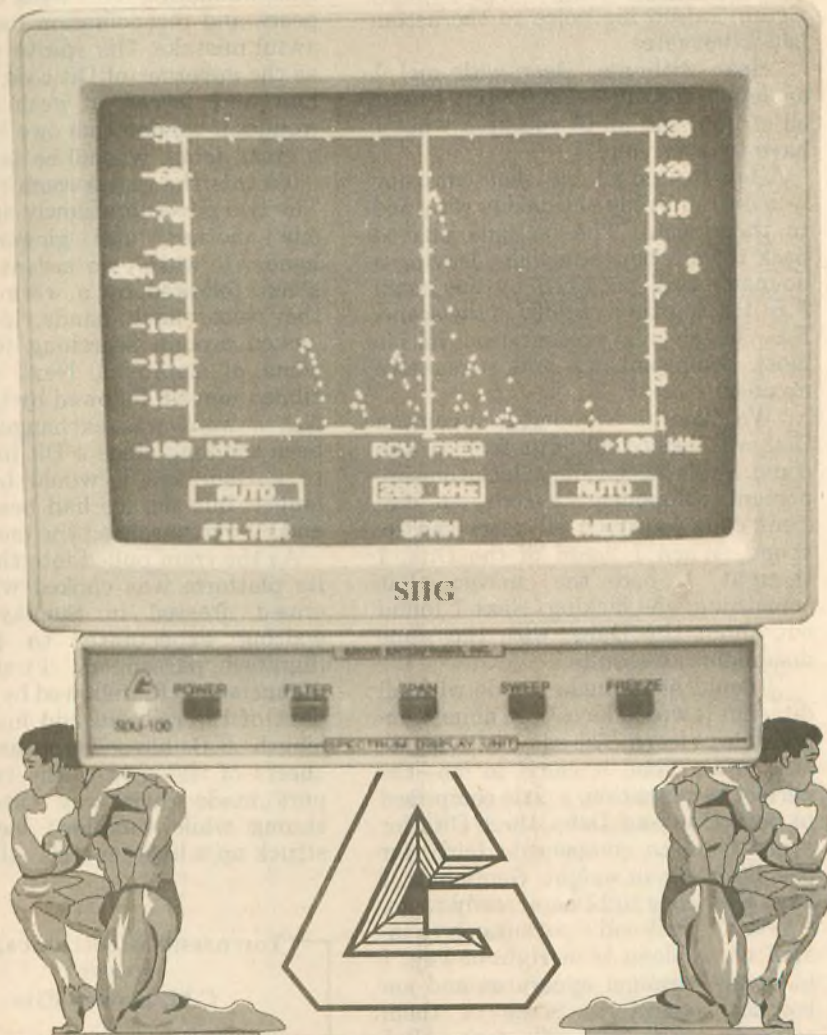
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newspaper reporters thronged the old hotel.

Esrom had assigned C.W. to cover the Dit room, and Q.R. the Dahs. Though each room was bulging with a noisy crowd, F.B. was nowhere to be seen. Then, precisely at seven, F.B. made his entrance, and before a host of unbelieving eyes, threw back the dividers and joined the two rooms. The Dahs let out a long gasp, while the Dits emitted three short ones. C.W. and Q.R. quietly moved to the doors to impede the departure of anyone so inclined. Before a rumpus could ensue, Esrom raised his voice to the astonished delegates.

"Bear with me! Bear with me! I apologize for my behavior but I need all of you, and all of you need what I have to offer you."

A few rose to go, but their curiosity won out and they sheepishly returned to their seats. The factions pushed back toward opposite walls, leaving a no-man's-land occupied by one man, F.B. Having thus stabilized the scene, F.B. began his presentation in his most compromising and persuasive manner.


"We have a wonderful invention that will benefit all of us for years to come, but it has one flaw, lacks one important component: a code, an efficient code to which all users can respond. When I heard of the Dits, I thought I had the answer, but something was lacking. Next I found out about the Dahs, with the same disappointing results.

"I could have made a code with all dits, but it would have been almost impossible to learn. The same with an all-Dah code. Then it came to me—the perfect combination, a code comprised of both Dits and Dahs, three Dits for every Dah, to compensate fairly for the difference in weight. Gentlemen, I have that code right here, ready to go. I have the railroad's permission to install wires along their right-of-way. I have the terminal apparatus and am training operators. Some of them could be right from this area. All I need now is your pledge of cooperation. I ask you to let bygones be bygones for your own sake and that of your children, who will bless you for your actions for generations to come. Now what do you have to say to that?"

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Silence fell upon the room. Here and there a foot scuffled, a chair scraped. Combined feelings of astonishment, doubt, fear and hope faded as a creeping tide of enthusiasm swept the room. After a long period of silence, the governor of Dah rose slowly to his feet and turned to the crowd.

"I never thought it would come to this," he stated solemnly. "All my life I have been taught to have nothing to do with the Dits. Could we have been wrong all these years?"

He looked searchingly at the Dit side, wondering if his weak overture of peace and reconciliation had been an awful mistake. His spirits were lifted as the governor of Dit rose, turned to him and forced a weak smile. "I wonder if we don't all owe Mr. Esrom a great debt," was all he said.

To this the entire room responded. The two governors slowly approached one another, and gingerly shook hands. It wasn't an ardent, vigorous shake followed by a warm embrace; they just shook hands, let go, and looked around searching for expressions of approval. Next the councilmen moved, followed by the others. Not a word was exchanged. It had been too long since a Dit had spoken to a Dah, and it would be a while longer, but the ice had been broken, and everyone sensed the inevitable.

As the train pulled into the station, its platform was choked with a gay crowd dressed in Sunday clothes, waiting expectantly to greet its dignified passengers. First to dismount was Q.R., followed by the president of the railroad and his wife. At length, F.B. himself appeared to the cheers of the crowd. The two governors made their way through the throng while combined local bands struck up a lively march. All proceed-

ed to the station, where a brand new telegraph terminal was set up. After the introductions, the podium was turned over to F.B.

"You will never know how much I value this day," he began, "which without your enthusiastic support would not have been possible. Some of you may remember C.W. Riggs, who was my assistant on that eventful evening last fall, and are probably wondering why he isn't with us now. Well, in a way, he is. He is standing by at a terminal, just like this, in the city, waiting for us to make contact with him."

He nodded to Q.R., who pounded out a series of clicks on the waiting telegraph key. The sounder responded with its own clacks, as Q.R. wrote on a small pad, which he handed to the governors, who looked at it and read aloud, "Greetings to the people of Ditland, and the land of Dahs, from C.W., in the city."

A cheer went up from the crowd which soon started chanting, "F.B., F.B., F.B., F.B. . . ."

The governor of Dit nodded to the governor of Dah, who raised his hand for silence and called F.B. to the center of the platform. Placing a hand affectionately on F.B.'s shoulder, he called out, "A day like this must not go by unnoticed. With that in mind, the governor of Dit and I have agreed that this new code should bear the name of its inventor, the illustrious Samuel F.B. Esrom. Accordingly I now dub this new wonder the Esrom code."

Another cheer went up from the crowd, which called for a word from F.B., who spoke as follows:

"Thank you for your kind and enthusiastic expression of approval, but I am not disposed to accept so great an honor. My thoughts go out to all those who worked to make this possible, especially the contributions of the Dits and Dahs. So, while my heart is full of gratitude, I must refuse the honor."

The pall of silence that fell upon the crowd was broken when the governor of Dit rose and spoke.

"Here we have a great man. No one can deny that, but we also have a person given over to modesty, which is often the companion of greatness. I hereby propose a compromise. What would you say if we name this code after its deserving inventor, but encode the name by spelling it backward. Good people of Dit and Dah, I give you the new Morse code."

Another cheer went up and was silenced only when F.B. stepped forward to acknowledge the ovation.

You know the rest of the story. That's because you are all hams! WR

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Stay inside the lines

TONY SPINO, WF1N

Amateur Radio is a diverse hobby. Operators range from reigning kings through those who have earned their equipment from physical labor to those who have retired from their life's work. Every time the newest ham publication arrives in the mail it seems that the youngest among us keep getting younger, and who hasn't talked to a true old-timer who was nearly 90?

Stations I have seen and those I have helped put together have run from a vintage transceiver sitting on a corner of a bedroom night table connected to a five-band trapped dipole, to a contest or DX station sporting rack-and-console mounted equipment and antenna arrays that would put many a local, commercial AM or FM station to shame. Some super stations have enough electronics, CRT displays, computing power, aluminum and wire to be able to assemble an F-16 Falcon. (I wonder what JP-4, jet fuel, would do for my amplifier?)

On-the-air pursuits diverge just as widely as the personalities of the folks behind the mike or at the key. A long unhurried conversation about everything or, it seems to others, nothing, is what leisure time and enjoyment is all about for some. Fifteen or 20 minutes spent chatting after the exchange of a 10-10 membership or other special number suits others just fine. More than a few tune the bands for uncounted hours to be able to say, as rapidly as possible, "You're also 5-9 from Whiskey Foxtrot One November," or whatever call sign is appropriate,

and after having done that (in about 2.09 seconds, I timed it), feel a tremendous sense of accomplishment.

Record-keeping can also be a part of our hobby. Until recently, all of us were required to keep a log; this is no longer so and some of us keep no records at all. Others log just call sign, name and QTH, and still others add information concerning counties, island names, those special numbers I mentioned, oblasts—the list can be quite lengthy. Many of us keep these records informally, some carefully, and there are those who are meticulous about it (the XYL says obsessive!).

But what is the point of all this? Is my waxing philosophical meant to be a treatise on diversity in Amateur Radio? Not really, it's more mundane than that. But, perhaps, just a bit profound. I was talking to Lou, KA1DIG, as I often do (not that Lou is mundane—we are kindred spirits, after all, having nearly exactly the same interests regarding this hobby of ours).

You see, Lou and I chase things—on the air, that is. (Remember, it is tough to find an XYL tolerant of all that aluminum and wire I spoke of earlier, not to mention calls at 3 a.m. that announce a "new one.") When our licenses were shiny and new it was states, then continents. As the ink faded it became DX, DXCC, then five-band DXCC. After license renewal, seven-band DXCC was chased and, now that the ink is once again fading on our licenses, WAZ and five-band WAZ are nearly complete. What else is there left to chase?

Hunting and pouncing is what we do. IOTA, Islands on the Air, rescued us, but only for a time. Having worked

many islands coupled with the declining solar cycle has, once again, left us without a quarry. What are we to do? This was the topic of our discussion in Lou's backyard. I'll spare you the full text of our meandering conversation and get to the point. (Did you say, "finally"? It is available, however, our conversation that is, on audio cassette; just dial 1-800/HOTAIR and have your credit card ready.)

County Hunting came up, and pros and cons were addressed. There are an awful lot of counties; that's a lot of postage. Lou and I have always been the type to "go direct." It would be more than a few QSLs to keep track of. But propagation is just about eliminating any more DX or new islands, and stateside contacts are more easily completed even when Old Sol isn't cooperating with us radio amateurs. We decided to do it but, for a change, not collect the QSLs. We would, of course, QSL any station that wanted our card. (I'm sure the demand will be "great" for two Connecticut hams who live in a county with approximately nine zillion other active operators). But how would we keep track of each contact so we could brag, at least to each other, about our numbers worked, states completed and so forth?

It was then that I remembered (a young brain cell must have been hiding out somewhere and just then decided to make a run for it). I recalled that I still had an odd shaped, red booklet. I had sent away for it when my license was only a few months old. That was before the DX bug had taken a bite out of me and before I knew Lou. I described the booklet to him, how it listed all the states and their counties with space for call signs, QTH, band, etc. It would make keeping track of what was worked and what was needed easy and would not be terribly different from the records we both kept for DXCC, WAZ and IOTA contacts.

It was then that Lou uttered a genuine bon mot, a mirabala dictum (this is the profound part). "Ummm," he said, "another grown-up's coloring book." The implications of that grew in my head as fast as the pileup had for ZA1A.

(turn to next page)



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Product Review

Ham Photo Calendar

NORM BROOKS, K6FU

I'm going to tell you about a product that has spoiled me completely. It's the Ham Photo Calendar. I have had one on the wall in my radio shack for four years now, and it has changed my operating habits considerably.

There was a time when I would turn on my radio, listen, and wonder, "What contest is that?" I would then look at the Contest Corral column in *QST* to see what was going on. Now, I simply look at the Ham Photo Calendar and see the contests listed for that date. Actually, the calendar shows the dates and times for over 100 operating events during the year. It shows radio history dates, conventions, code proficiency runs, lunar, solar and meteor shower data, and all US and Canadian public and popular holidays. This year, 1993, there is a propagation tutorial and outlook by Chod Harris, VP2ML. There is also radio history and footnotes by Tom Lewis, author of *Empire on the Air*.

The 1993 edition initiates a new larger 11 x 11 in. page format. Unfolded, it measures 11 x 22 inches. All photos used in the calendar are related to Amateur Radio and are in full color. Even the calendar body pages (the numbers) are in color. All told, this is a handsome addition to your radio shack wall. You won't regret buying one.

To order, send \$12.95 each (double \$11.95 when ordering three or more). For each shipping address in the US, Canada and Mexico, add \$2.50 for the first calendar, plus 50¢ per additional to defray shipping and handling. For overseas (via air mail), add \$6 for the first, plus \$2 for each additional. For Asia, Africa or Pacific, add \$7 for the first, plus \$3 each additional. Packs of 10, including air shipping are available at \$108 US; \$112 VE/XE; \$115 NA/SA; \$125 Europe; \$135 Asia or Africa. All prices are in US dollars. Order from KB1T Radio Specialties, Box 1015-YW, Amhurst, NH 03031. Their telephone number is 603-673-4100.

Inside the lines

(Continued from previous page)

"An adult's coloring book." That is, indeed, what it would be. That is exactly what our hobby, in all its variations, is all about. (Should Scotty, or whomever, "beam us up" at any point in the near future, our families would have quite a time cleaning our shacks of all the non-equipment items most of us seem to collect. It makes me cringe to realize that all that wallpaper does not have any intrinsic value beyond what we as hams attach to it.)

More than once, as I have sat sorting QSLs to ready them for some award or another, the XYL has laughingly said that I was like a little boy going through his baseball cards; with the footnote that I, unlike a youngster, would never think of trading even one of them. But, can I help it if my QSLs and what I "get" with them are as valuable to me as a 1952 Topps Mickey Mantle rookie card? (Just as an aside, not being a collector of baseball cards, I called a non-ham friend who is, in order to get the name, etc., of a valuable card that would convey the worth, to me, of some of my treasured QSLs. Do you know what that Mantle card is worth?

How does 35 to 40 thousand dollars grab you? And the XYL say Amateur Radio is an expensive hobby.)

Given the worth of that "baseball QSL card," this is one case where the old adage (updated for today's world) "The only difference between a man (or woman) and a boy (or girl) is the price of their toys," breaks down completely. The important word here, however, is "toy"—as in coloring book. All of us, it seems, no matter what aspect of our hobby we pursue, stateside or DX, from the most famous DXpeditioner or the ham who has worked them all, to the ham who operates only on weekends and has yet to fill one logbook—all of us are working on our coloring books.

Despite our sophistication, our responsibilities as a member of a family or as a member of the larger society, our years of experience notwithstanding, the notoriety we may have achieved as a result of our working careers, even if it be national or international in scope, comes to this simple truth. Whenever we sit down in front of our radios and reach for the mike or the key, we are much like children getting out our coloring books—and crayons. Not a bad image, after all, is it! Oh, can I borrow your burnt umber?



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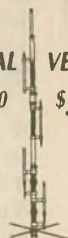
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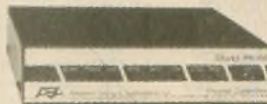
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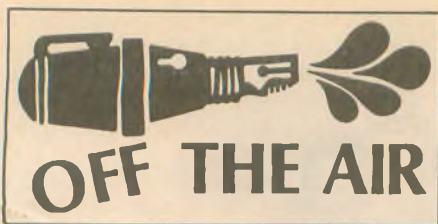
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Confusing K-calls

It seems, lately, that most every ham with "K" in his call prefix uses "kilowatt" for the phonetics for just the "K." This is confusing, since the standard abbreviation for kilo is K and the abbreviation for kilowatt is KW; therefore, when logging in a hurry, we often wind up with a three-letter prefix. This comes across as KWA6AA, for example, rather than KA6AA.

I know the "kilowatt" sounds *big* to the owner of the call but it sure muddies things up! This is getting really bad on 10M and is showing up on other bands, too. How are the foreign DX stations going to react? Seems to involve as many 2x1 and 2x2 calls as the newcomers.

An anonymous WB6
Cerritos, CA

Equal time

Recently there have been several proposals by various groups to lower the CW and/or theory requirements on Amateur Radio exams, or to vastly increase privileges for the entry-level license holders.

Certainly, everyone is entitled to their preferences within Amateur Radio, with respect to choice of frequency and mode of operation, and it is easy to consider subjects of study not pertinent to one's preference as being unnecessary.

But I believe that we must all keep in mind the purpose of the examination in the first place. The discipline of

studying for FCC exams is comparable to a college education. Each potential radio operator is given a relatively limited exposure to every one of a broad number of potential specialties within the Amateur Radio world. After "graduating," one may choose to "specialize" in traffic handling, antenna theory, LC circuits, or just plain ragchewing on the local repeater, and forget everything else that was on the exams.

My Extra Class theory test contained much material on logic circuits. Now, at this point in my amateur experience, nothing could be further from my interest! I have no need for, or interest in, logic circuits. But am I going to petition the FCC to remove that material? How does knowing about NOR and NAND gates help my DXing and traffic handling? But I try to remain open-minded, realizing that only Extra Class licensees have the privilege of acting as control operators of satellite stations, and someone better know what they're doing when designing circuits for a service that impacts all amateurs around the planet!

Left to themselves, it is the nature of humans to want everything for nothing. What's next? Extra Class privileges for a one-time \$50 fee?! What type of quality would we be producing in the next generation of hams? The same type of quality we've been investing in high school students, whose SAT scores have been falling for the last 20 years? A subtle shift of emphasis is taking place. A shift away from being thankful for privileges granted, to contempt for

the boundaries placed around those privileges. Have you listened to CW recently? Everyone does what they want with no regard for the law.

If our code requirements are tougher than those in the rest of the world, then ... great! If our theory demands deeper understanding, then ... great! *We* will be the radio operators who will provide leadership to the rest of the world.

My personal opinion is that the ARRL should provide for continuing education in the area of radio electronics, along with some type of privileges or recognition for achievement. Is not one purpose of our hobby that of *advancing* our hobby? I have an Extra Class ticket, and I wish there was more to study. The more I learn the more I realize just how much I don't know. For those who want minimum intellectual involvement, CB is still available. For those whose interest it is to do business, cellular phone and business band radio are available—and no test is involved.

Now, as far as CW goes, one must for emergency preparedness reasons, be able to communicate in a language common to the world, if one intends to use "worldwide" frequencies (HF). CW bridges the language gap. And it's certainly easier than learning Japanese, Russian, German, French and Italian. Oh, did I leave out a DXCC language?

Before we re-allocate the bands so that codeless Techs can go HF in order to learn code, why not first exhaust all current resources? Use club repeaters, handi-talkies, and code practice oscillators to have club-sponsored code practice on the club repeater. CW is nothing but an intellectual exercise. As an alternative form of communication, CW is to the sense of hearing what Braille is to the sense of touch, and sign language to the sense of vision. It's a blast! Fast CW is like playing a tough computer game!

The bottom line is this: Use what you have available to you *now*, and find a way to make it fun! What's wrong with a code-only night on the repeater, once a week? *Or even a CW-only repeater!* Do Novices know how valuable their privileges are? Do they understand that DXCC is possible within the "confines" of the Novice bands?

As the rest of society goes to pot, let's hold our standards high, with a view for *increasing* the quality of our amateurs.

If you don't see eye-to-eye with my view, please tune in CB and listen before rebutting. 73.

BRIAN CEROKY, AA2LK
Lockport, NY

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No more bad-mouthing

We are told CW is dead. As a CW man I can assure you it isn't.

The CW frequencies are as busy, if not more so, than ever. We have young skilled CW operators joining us all the time. We are told that NTS, meaning HF NTS, is on its way out. From what I'm hearing, if NTS went out of business tomorrow, the CW traffic nets would just keep on operating as independent nets with no interruption. I think the phone guys feel the same way.

Let's face it, once and for all, Amateur Radio is a hobby, not Western Union, and we are all going to spend as much time operating the mode we enjoy most, no matter how much that mode may be disliked by others. We are not all going to move to that one "super" mode, whatever you fancy that mode to be.

Amateur Radio is to enjoy, and bad-mouthing any mode, especially modes we never operate or wish to spend the time to develop skills to operate, has no place in Amateur Radio, Amateur Radio magazines, or on your local BBS.

The HF vs. high-tech nonsense is just that—nonsense. It's time responsible people stop it and discontinue adding fuel to the fire. Amateur magazines could fill column space with much more important items using the space which has been devoted to the old, and inaccurate "CW is dead" garbage.

HARRY THOMAS, Jr., W3KOD
Wilkes-Barre, PA

The RF exposure myth

I am mighty tired of all this "goblecock" about the detrimental effect of RF radiation on the human body. What detrimental effect?

Consider my own experience with RF exposure over what is now 64 years in the industry. In my early years, before the war, it was my job to design, build and put into operation all the studio and transmitting equip-

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ment used by the Arrowhead Network stations operating in Minnesota and Wisconsin. The two 5,000W transmitters I designed and built were not enclosed in a metal cabinet. They actually were each built in the wall of a room with all RF components entirely open and not shielded in any manner, leaving the operating room saturated with RF fields. The engineers and I lived and worked in this field day after day, month after month and year after year. Somehow we have survived, now 50 years later.

One of those stations, WEBC, Duluth-Superior, employed a half-wave transmitting tower with a base impedance of $1209 + j218$, and with 5,000W in that tower you can imagine the high base voltage to ground. I used to amaze and delight friends by taking them to the tower and with a copper rod touch the tower, drawing out a screaming arc two or three inches long. At that moment I would estimate that two or three thousand of those 5,000W in the tower was draining off to ground through my body. I must admit my arm and feet did get quite warm. I did this many times through the years. Each time my body was subjected to billions of times more RF than anyone else could be in a lifetime.

There is more. Before the war I built a diathermy machine using a pair of 810 tubes which, if pushed hard, would develop 300W of output power at about 10 MHz. I used this machine often to soothe aches and pains in my body—a copper pad on my back and another on my sore arm or leg or whatever hurt. For a half-hour or so

300W of RF energy would surge through my body, warming me up inside, like being in a microwave oven.

Those days every doctor's office had a diathermy machine for treating patients. Because these powerful little transmitters did radiate, the FCC at one time licensed all diathermy machines. I had a license for my machine too. And I bet my diathermy was heard all over the US and maybe in Europe too. Eventually the FCC closed them all down due to the interference they were causing to communications. But by then I had used my diathermy a lot.

So in my many years in broadcasting my body has been subjected to massive and unbelievable amounts of RF radiation, and here I am today, the most healthy, active 81-year-old broadcaster in the industry, and I continue to sail through my biannual pilot physical examination each time, keeping me and my plane in the air broadcasting over KVBR.

These days I find it very amusing, this new requirement to not allow anyone to be close to an AM tower more than six minutes at a time. Considering my long-time happy experience with RF radiation, I suggest AM station owners go out to their AM tower every few days and throw their arms around the tower and absorb this life-giving radiation for an hour or so. Then maybe they too will be able to pass pilot physicals at the age of 81, just as I do.

It's time for a little common sense to be brought into the industry.

CHARLES PERSONS
Brainerd, MN

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Les Taylor,
WA0QIT

STATION APPEARANCE

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Winners will also receive a top quality, Laserjet-printed copy of the DXCC and WAS BeamHeadings list (a \$15.95 value) compliments of Jack Hurray, W8JBU.

Les Taylor, WA0QIT, is this month's winner. Les has been teaching Amateur Radio individually and in classes to people in the Duluth, MN-Superior, WI area for 25 years. His station has always been open to students for hands-on experience.

I have been an Amateur Radio operator for 25 years. Much of my time is devoted to helping others obtain their licenses through private instruction and classes; however, I have won a number of major awards. Most of my present operating is digital—HF packet and RTTY.

My station consists of, from left to right, 640K CompuAdd XT computer with a 65 meg hard drive, VGA monitor, Icom 2AT, Radio Shack HT-202, Alliance HD-73 rotor box, MFJ-949C tuner, MFJ-1278 multi-mode controller, Icom IC22A (for VHF packet), Kenwood MC-60 mike, Antronic PS (for IC22A), homebrew RT-



WA0QIT demonstrates SSTV to student Ron Wood, KB9HKB.

TY filter, homebrew digital clock, Kenwood TS930S, and Realistic FM intercom.

My antennas are a TA33 Jr up 50 feet, 14 AVQ ground-mounted, and a W9INN sloper for 30, 40, 80 and 160M.



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consideration in our monthly AMATEUR "HI" contest. You could win a free year's subscription to Worldradio!

This month's fish story is sent to us by Ric Susswein, KJ2D, of Hamilton Square, NJ, NOT the Great Barrier Reef.

My wife has had her Tech ticket since the early 80s. On her New Jersey license plate is her call sign, N2CWD.

I took my wife's car with her ham

radio license plate to get gasoline. While filling up her tank, the person behind me came up and asked, are you into scuba diving?"

With a puzzled look on my face I said, "No, why do you ask?"

His answer was the ham license plate N2CWD. He though it meant "into seaweed"!



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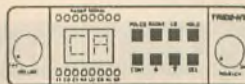
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SPECIAL EVENTS

Constitution Island

The West Point Cadet ARC, in conjunction with the Orange County ARC, will operate W2KGY on 17 April from the historical landmark, Constitution Island.

Operation will be on 10 through 80M in the first 10 kHz of the General phone portion. QSL with SASE to W2KGY.

VOA relay station commemorated

The Piscataway ARC will operate signing / VOA 3-4 April to commemorate the World War II operation of the Voice of America relay station WBOU.

Operation will be on CW—Novice portion of the bands; phone—lower third of the General portion of the 75 through 15M bands and the Novice portion of the 10M band from 0000Z to 2400Z.

For certificate, send QSL and SASE to the station worked.

Battle of Manila Bay—95th anniversary

The Olympia ARC will operate WA3BAT from 1300Z 1 May to 2000Z 2 May to commemorate the 95th anniversary of Admiral Dewey's triumph over the Spanish fleet at the Battle of

Manila Bay.

Operation will be on SSB/phone 3.895, 7.245, 14.245, 21.365, 28.365 and 145.270.

For certificate, send QSL and a 9 X 12 SASE to Olympia ARC, P.O. Box 928, Philadelphia, PA 19128.

Jefferson's 250th birthday

The Albemarle ARC will sign AA4TJ on 10, 11 and 13 April marking the 250th anniversary of Thomas Jefferson's birth at nearby Shadwell Plantation 13 April 1743.

Operation will be on CW—7.043, 7.143, 14.043, 21.043 and 28.043; SSB—7.243, 14.343, 21.343 and 28.443, from 1400Z to 2230Z.

For certificate, send QSL and large SASE to AARC, P.O. Box 6833, Charlottesville, VA 22906.

International Marconi Day

The Cornish RAC will sponsor the fifth annual Marconi Birthday event on 24 April from 0000Z to 2400Z.

Twenty-one Marconi special event stations worldwide, representing Marconi historic station locations, will take part, including: GB4IMD, GB0IMD, GB2IMD, GB0SFL, GB2MDI, GB4MID, CT1TGM, EI2IMD, EI4IMD,

DA0IMD, IY0TCI, IY1TTM, IY4FGM, IY0GA, ZS6IMD, VE1IMD, VO1IMD, K1VV/IMD, N2FCZ/IMD and KK6H/IMD.

A certificate will be offered for working 12 of the 20 stations. For info contact Mike, G4WQL, c/o CRAC, Box 100, Truro, TR1 1RX, Cornwall, England. The SWL award is also available for working 12 stations. Cost of the award is US\$8 or 12 IRCs and US\$5 or eight IRCs for the SWL section.

Ogdensburg's 125th anniversary

The Ogdensburg ARC will operate N2MXR from 1400Z to 2100Z on 25 April to commemorate the 125th anniversary of the city of Ogdensburg.

Operation will be on 7.280, 14.325, 21.325 and the Novice portion of 10M (+/- QRM).

For an official certificate, send QSL with contact number and either a #10 or a 9 X 12 SASE to Pete Baltradis, Rd. 1 Box 206, Norwood, NY 13668.

32nd annual Jackass Mail Run

The Porterville ARA will operate WG6Q from 1600Z to 2400Z on 17 April to commemorate the 32nd annual Jackass Mail Run.

Suggested SSB frequencies are 28.355, 14.265, 7.292 and the WA6CYN repeater, 145.31 (-600) for mobile stations in the San Joaquin Valley.

For QSL certificate, send #10 SASE or 9 X 12 SASE to WG6Q, c/o PARA, P.O. Box 2233, Porterville, CA 93258. Allow at least six weeks for certificate.

I kerchunk, therefore I am

Kerchunk: Either a verb or a noun, but usually a verb. From the German, kerchunken; to kerchunk a repeater. "I kerchunk, you kerchunk, he/she/it kerchunks."

Whenever I kerchunk, I always identify. This not only keeps many from being "rubbed the wrong way," but has resulted in many a nice QSO.

A good kerchunk tells you many things:

1. Your transmitter is working.
2. Your receiver is working.
3. Your antenna is working.
4. The repeater is there.
5. The repeater receiver is working.
6. The repeater transmitter is working.
7. The repeater antenna(s) is (are) working.
8. The call of the repeater.

Sometimes my kerchunk is answered by an anonymous kerchunk. But it seems my kerchunk is always a higher quality than his kerchunk.

"I love the smell of kerchunk in the morning."

There is a local chapter of KA soon to form in this area. MFJ will soon

market a kerchunk detector which will print out each month the date, time, and call for each and every kerchunk. It will result in the FCC charging 25 cents per kerchunk. It will be added to your income tax. The new 1040-K forms are being printed even as I type.

National Kerchunk Day will be established by congress next year. On this day *only* kerchunking will be

allowed on repeaters. Anyone actually engaging in a conversation will lose his kerchunking privileges for a period not to exceed 90 days.

Recently, kerchunkers have been heard on 20 and 25M. Is this a trend? When I operate 6M, I sometimes kerchunk my neighbor's TV. Have you kerchunked *your* repeater today?

There will soon be an award, "KAS." 73 de K9CUN, Jack.

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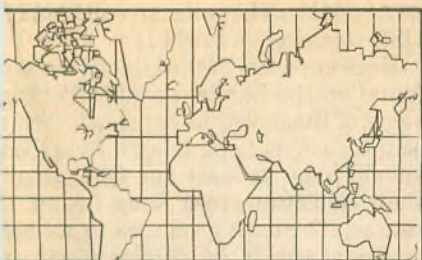
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V100N

The following DXers were issued *Worldradio's* Worked 100 Nations Award for the period 14 January 1993 through 5 February 1993:

- 43) Darrel H. Smith, N2BJV; 14 Jan. 1993
- 44) Carlo Audone, IK1SLE; 5 Feb. 1993
- 45) Harry S. Millum, KK6JY; 5 Feb. 1993
- 46) George K. Scott, VE7GSE; 5 Feb. 1993
- 47) Christopher Mintner, KA0BZC; 5 Feb. 1993

Baker and Howland Island (AH1)

By now the DXpedition to Baker and Howland Island is history. The operation was sponsored by the Mile High DX Association and signed AH1A to give a new one to many of the deserving DXer.

I needed this one on 40M. Unfortunately, every time I found him he was looking for Europeans. That's a case of being in the right place at the wrong time.

QSL requests should be sent to the association at P.O. Box 1, Franktown, CO 80116. Please include the usual QSLASE, and green stamps would be appreciated.

North Korea (P5RS7)

More than 36,000 contacts were made by the DXpedition team to North Korea. The site of operation was near the Russian border in the northeastern region and consisted of two stations operating simultaneously.

The operators included Romeo JW3RR/AH0M; Oleg, UB4JDM; Mike, UW0MF; Yoly, UT3UY, and Oleg Pavlenko.

The period of operation commenced on 18 December, five days behind schedule and continued until 1800 UTC, 6 January.

Pitcairn Island (VR6)

If you hear a sweet young lady on the bands signing VR6RC from Pitcairn Island, that's Raylene, the daughter of Tom, VR6TC, and Betty, VR6YL, Christian.

Visitors Nob Ichino, WK3D, and Hiro, VK4CPU, should be active from the



Vlad Sannikov, UA9FAR, operating as KB7LRV in Flagstaff. Vlad, and his XYL, Nataly, RA9FAL, were guests of several members of the Northern Arizona DX Association, 1-24 September 1991. Vlad has upgraded his Novice call to AA7LN. (Photo courtesy of W7YS)

island through March signing VR6JJ and VR6BB, respectively.

Hiro, VR6BB has been very active on all the bands, all CW. If he is still going strong check the following bands for him:

- 1.824 MHz, 0430 to 0500 UTC
- 3.504 MHz, 0430 to 0500, 0700 and 1130 UTC
- 7.005 MHz, 0430 to 0630 and 1230 UTC
- 10.103 MHz, 0130 to 0330 and 0600 UTC
- 14.025 MHz, 0300 and 0930 UTC
- 18.070 MHz, 1800 to 1830 UTC
- 21.025 MHz, 0030, 1800 and 2000 UTC
- 24.895 MHz, 1900 to 1930 UTC
- 28.025 MHz, 0030 and 1800 UTC

Hiro has also been worked on RTTY. Try 21.088 MHz around 0045 and 1800 UTC.

Nob, VR6JJ, has also been active, although not as active as Hiro. Look for Hiro near 18.125 MHz at 2000 UTC, 24.935 MHz between 1900 and 2300

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UTC, and 28.495 MHz around 0130 UTC.

Also active from Pitcairn Island is VR6BX, mostly on 10M in the Novice portion of the band. Look for this one

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between 28.425 and 28.490 MHz after 2100 UTC. He was also reported on 7.168 MHz at 0400 UTC and RTTY near 14.088 MHz at 0100 UTC.

Other less active calls reported include VR6MW on 21.421 MHz at 0115 UTC and VR6YL on 14.278 MHz at 0600 UTC.

Hong Kong (VS6)

There always is activity out of Hong Kong. IOTA chasers, when you work this one be sure to ask them if they are on the mainland or Hong Kong Island. To count for IOTA credit, the QSL card should clearly indicate so, or that the IOTA committee is aware that the station is on the island.

The most active stations from Hong Kong recently have been VS6BG and VS6WV, and they have been on several bands. They amount to the bulk of the DX reports recently.

For an 80M contact listen for VS6WO who has been worked near 3.504 MHz around 1300 UTC or VS6WV near 3.506 MHz at 1200 UTC.

More activity has been found on 40M, such as the following:

VS6BG	7.015 MHz	1330 UTC
VS6MV	7.005 MHz	1345 UTC
VS6WO	7.009 MHz	1345 UTC
VS6WS	7.006 MHz	1415 UTC
VS6WV	7.004 MHz	1200 UTC

On 20M we have VS6BG on 14.002 MHz at 2330 UTC, and VS6WV on 14.184 MHz at 0030 UTC. VR2GC, with one of the newer prefixes, was reported on 14.026 MHz at 0230 UTC.

Fifteen meters has been scarce with only VS6BG on 21.005 MHz at 0045 UTC and VS6GU on 21.260 MHz around 0045 UTC.

Revillagigedo (XF4)

Early in January a station signing XF4JC was worked on 30M near 10.104 MHz around 0200 UTC. We have seen no other reports on this one.

A group of Mexican DXers were to have operated as XF0C from Clarion Island (NA-115) which counts the same as Revillagigedo for DXCC purposes. They were scheduled to have left the island on 5 March.

Cambodia (XU)

The DX newsletters report that XU5SE usually hangs out between

14.010 to 14.025 MHz and looks for North Americans on Wednesdays between 1230 and 1330 UTC. This operator likes high-speed CW. He was also reported on 40M near 7.015 MHz around 1500 UTC.

Also on 40M was XU7VK, who was worked mid-December near 7.009 MHz around 1430 UTC. XU7VK is Sanyi, HA7VK, who is with the Hungarian Embassy in Phnom Penh.

XU6TQ is John, PA3BTQ, who probably has left by now. We had only one report for him and that was for a 30 December contact with California on 14.025 MHz at 1530 UTC.

XU4OF is Max, although we found no activity for him recently.

Other calls reported recently from Cambodia include:

XU0NU	7.003 MHz	1530 UTC
XU1PV	10.135 MHz	1900 UTC
XU2ZP	7.005 MHz	1430 UTC
XU5DX	7.001 MHz	1500 UTC

IOTA

Tony Spino, WF1N, reports that he, along with Rich, NT1I, and Lou, KA1DIG, will conduct another one of their IOTA DXpeditions, this time to Martha's Vinyard, (NA-046). They plan on four days of operation, 30 April through 4 May. Check the usual IOTA frequencies, 14.260, 21.260, 28.460 and

28.560 MHz. The call sign will be NT1I. QSL requests go to NT1I.

Here are a few of the islands we have found on the bands recently. Perhaps some of these you never considered for a QSL card, such as Long Island. Everybody should have at least one QSL card in their collection from Long Island. Of course, it's also a good idea to get hold of one of the IOTA directories if you haven't already. They are available from Dewitt Jones, W4BAA.

EU-123	Isle of Arran	14.014 MHz	1500 UTC
AS-018	Sakhalin Island	21.300 MHz	0045 UTC
AS-076	Shikoku Island	21.250 MHz	0045 UTC
AS-077	Kyushu Island	21.282 MHz	0200 UTC
NA-026	Long Island	14.200 MHz	0145 UTC
NA-031	Aquidneck Island	14.260 MHz	1900 UTC
NA-036	Vancouver Island	3.768 MHz	0700 UTC
NA-041	Douglas Island	21.260 MHz	2000 UTC
NA-061	Kaiei Island	14.260 MHz	1800 UTC
NA-065	Camano Island	21.260 MHz	2115 UTC
NA-092	South Padre Island	28.560 MHz	1700 UTC
NA-134	Disco Island	14.160 MHz	2145 UTC
NA-140	Kent Island	14.160 MHz	2145 UTC
OC-121	Java Island	21.263 MHz	0145 UTC
OC-141	Groote Eylandt	21.198 MHz	2230 UTC

We usually don't list the DXCC islands that count for IOTA, as they are obvious. Such islands or groups include VP2VF in the British Virgin Islands (NA-023), and the AH1A DXpedition to Baker and Howland islands (OC-089). Check your cards if you are an active DXer, as more than likely there are at least 100 qualifying islands in your QSL card collection. All seven continents (Europe, Africa, Antarctica, Asia, North America, Oceania, and South America) must be represented.

IOTA convention

There will be an IOTA convention this spring at Torremolinos (Malaga) in Spain. It will be held at the Don Pablo, a four-star hotel, this 14 through 16 May. The only information sent to us is reservation information at the hotel and nothing concerning the program. If you are interested in attending and can offer material such as videos, etc., please contact Pepe Ardid, EA5KB, P.O. Box 5.013, Valencia 46080 Spain.

Bam! Bam!

Yes, that's about what it is this April. Two big DX gatherings a week apart

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The 1993 International DX Convention at Visalia will be the weekend of 16-18 April, followed by the Dayton Ham Vention the weekend of 23-25 April.

East Coast DXers, why not attend both? Start with Visalia, and over the following couple of days visit the Golden State. We are having a wet winter with plenty of snow for good skiing in the Sierra. Finally, you can finish up at Dayton.

In addition to the DX sessions at Visalia, where activities begin late Friday afternoon, there will be the usual Friday hospitality hour, followed by an evening western barbecue-in-the-park. The Saturday evening banquet is always a success. Refer to February's column for pre-registration details. The deadline is 15 March.

The DX highlights at Dayton include the big Friday evening DX dinner sponsored by the Southwest Ohio DX Association. This has always been a popular one for DXers. Tickets for this one cost \$26.50 each. Make your checks payable to SWODXA and mail to Scott Lehman, W9AG, P.O. Box 803, Greenville, OH 45331. For further information contact Scott at 513/548-6230. Following the dinner, and Saturday evening too, several DX clubs host hospitality suites. In the past such clubs have included the Kansas City DX Club, Western New York DX Association and the North Jersey DX Association.

Please be aware that the above functions are not part of the HamVention. They are only fringe benefits. There will be DX functions with the HamVention. Advance registration for the HamVention is 2 April. Call 513/454-1456 for details.

5BDXCC

Great news! The start date of 5BDXCC has been changed from 1 January 1969 to 15 November 1945! This is the same start date as the rest of the DXCC awards program, except for that of the CW DXCC. There is no planned change for the foreseeable future.

Those with DXCC "band" awards will automatically be granted credit toward 5BDXCC.

DXCC backlog shrinks

The DXCC Desk reports that the backlog of unprocessed applications at the end of January was 2,460 (172,154 QSL cards!). This compares to 3,803 (268,729 QSL cards) at the end of October with 3,541 (262,217 QSL cards) as of 30 November and 3,239 (238,544 QSL cards) at last year's end.

Applications being sent out at the end of January were received 19.5 to 24 weeks earlier. Twenty applications were received prior to that time.

The DXCC computer database now

contains 3.6 million country credits. Three million of those credits are from paper records that have been converted in the last 15 months.

The management at ARRL headquarters cites three factors for the improving situation in DXCC: 1) addition of a second shift for data-entry work; 2) enhancements of computer software and hardware; 3) completion of record conversions for all Honor Roll and most active DXCC members.

The DXCC staff thanks all participants in the program for their continued patience. They are looking forward to reporting further progress in the months ahead.

DXAC matters

The DX Advisory Committee (DXAC)

voted 10 to six to recommend deletion of the Red Sea Islands (Abu Ail) effective 31 March 1991, the date the Red Sea Lights Company resigned from management of the lighthouses on some of the islands. It appears that Yemen administrators at least some of the islands now, and the islands no longer meet the DXCC rules separation requirement.

The DXAC voted 16 to zero not to recommend the addition of the Tembourg District of Brunei to the DXCC Countries List. The separation distance is significantly less than the 75 miles required by the rules.

The DXAC is considering a petition to give current DXCC country status to Eritrea, an area that became a province of Ethiopia in 1962. A popular vote for Eritrean independence is scheduled for



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April 1993, and the DXAC is waiting for the results of the vote prior to voting on DXCC country status.

The DXAC is still studying the recent dissolution of Czechoslovakia. The present agenda item is the proposal to delete the DXCC country of Czechoslovakia and add the Czech Republic and the Slovak Republic as new DXCC countries. There is discussion of the political aspects of the division which could affect the agenda question. The DXAC will vote soon.

The DXAC is looking for input worldwide suggesting DXCC rules changes that would discourage abuses in the QSL process. Interested parties may submit examples of poor QSLing practices and suggested changes until 31 August 1993. Any change in the rules must be fair, enforceable and not burden the ARRL, the DXCC Desk or the DXing community. Please submit your comments to: ARRL DXAC, 225 Main Street, Newington, CT 06111.

Discover America—Russian style

Bill Schuchman, W7YS, sent us an interesting item which we shall share with our readers. Bill's friend, Vlad Sannikov, UA9FAR, was in Arizona in September 1991 visiting from Perm, Russia. Vlad was on the air using his Novice call, KB7LRV, and while he was there he passed his Amateur Extra Class exam and was soon issued the call, AA7LN.

"As many of us know," says Bill, "the Russians have much greater flexibility and success in obtaining special calls to celebrate special events than we do! In a manner of celebrating the 500th anniversary of the Discovery of America (1492-1992), the Russian hams who had American calls were authorized to use them on the air for about a week, using the prefix R/American call. Vlad immediately got on the air with his R/AA7LN call and worked many stations."

Vlad's comments received from stations he worked were most interesting, such as the following:

- 1) Welcome to Russia! (many stations),
- 2) Strange place to celebrate the event (a W6 station),
- 3) Do not drink too much Vodka with that UA9FAR (a UB5 station),
- 4) Yankee go home! (no callsign).

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Help!

Fred Carter, 3D2CC, of Malolo Lai Lai Island (OC-121), recently lost his antenna during a devastating hurricane. Fred was considering installing a quad but it was suggested by some DXers to install a three-band beam. Dick McKercher, W0MLY, has offered to obtain such an antenna at cost.

Fred, who is 76, is living on a very meager pension from England, just enough to get by. Anyone interested in helping in the cost of purchase and shipping of the antenna can send their donation to Dick, P.O. Box 7, Rippey, IA 50235. Canadian DXers should send theirs via Russ Wilson, VE6VK, 1235 Richland Road N.E., Calgary, AB T2E 5M5, Canada. Russ, who is Fred's QSL manager, says that if Fred leaves, that will probably be the end of contacts with OC-121.

Clubs

The Carolina DX Association (CDXA) announces new officers for 1993: Joe Simpkins, WD4R, president; Ric Porter, AA4SC, vice-president; Bill Jennings, W4UNP, secretary/treasurer; Bruce Gragg, AG4L, net manager, and Bill Taylor, KD4IL, newsletter editor. Membership information is available from Bill Jennings, W4UNP, at 630 Whitepine Drive, Catawba, SC 29704.

In Rockford, Illinois, the Blackhawk DX and Contest Club voted in their 1993 officers as follows: Gary Hilker, K9LJN, president; Don Sjoberg, W9KIA, vice-president; Clayton De-Witt, N9HUB, and Brad Ambro, KA9LTR, treasurer. Additional positions included Gene Duncan, K9IKP, contest advisor; Tony DePasqua, KB9CDD, and Paul Johnston, KR9P, as board members. Further information on this organization is available from Clayton DeWitt, N9HUB, BDXCC, P.O. Box 7343, Rockford, IL 61125; 815/226-5618. The club is affiliated with the ARRL. Is yours? If not, why not?

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has elected their officers for 1993 that include Rick Samoian, WB6OKK, president; Bob Selbrede, W9NQ, vice-president; Paul Playford, W8AEF; and Charles Spetnagle, N7QQ, treasurer. Larry Shapiro, KJ6HO, Art Enochson, K6EA, and Peter Meyer, N0AFW, were elected directors, with Paul Garvin, KF6TC, responsible for membership. Additional information concerning the Los Angeles based DX club should be addressed to Paul Playford, W8AEF, 7761 Mary Ellen Avenue, North Hollywood, CA 91605.

HIDXA

In past issues we have mentioned the NCDXF, the Northern California DX Foundation, (not to be confused with the Northern California DX Club), and the INDEXA, the International DX Association. Both organizations provide financial assistance to many DXpeditions and help with their success. Otherwise, you wouldn't have worked that new one!

There is another organization that perhaps many of you have never heard of. Out on Norfolk Island we have the Heard Island DX Association. Strange name for an organization on Norfolk Island? Well, not really. The HIDXA was organized by Jim Smith, VK9NS, following his DXpedition to Heard Island 10 years ago. We don't remember exactly what sparked the forming of the association, whether Jim went into the hole financially or he had excess funds from the DXpedition.

Members and other DXers meet often on 14.222 MHz, usually starting around 0100 UTC. Later in the day there is a DX net on the same frequency which takes check-ins around 0530 UTC.

As we have said before, all these organizations aid in the assistance of putting those rare ones on the air. Most of the HIDXA-funded DXpeditions are Jim Smith's own, although the HIDXA did contribute to others, such as the 1987 DXpedition to Peter I Island and the 1990 DXpedition to Bouvet Island.

Membership in the Heard Island DX Association is \$25 (US) per year, which includes certificate and periodic mailings. If you pay by check please include an additional \$2 to cover the bank costs. Save the two bucks and send your credit card number, (include which card and expiration date). Send your application to: The Secretary, HIDXA Club, P.O. Box 90, Norfolk Island 2899, Australia. If you want additional information contact the HIDXA or, here on this part of the world, W8MEP.

IRC update

Art Goddard, W6XD, checked with his local post office regarding the re-

DX Prediction — April 1993

Maximum Useable Frequency from West Coast, Central U.S. and East Coast (courtesy of Engineering Systems Incorporated, Box 939, Vienna, VA 22183).

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

CENTRAL USA

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	18	(13)	*22	12	*17
10	(22)	12	*19	(11)	*18
12	30	*16	*17	19	21
14	34	18	(17)	22	*27
16	34	16	(16)	22	*32
18	*34	(13)	(15)	21	*34
20	28	22	28	18	*36
22	23	24	34	13	*36
24	*20	23	36	(11)	*30
2	*18	20	34	11	*25
4	*18	18	32	*16	*21
6	21	15	26	14	*18

WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	(14)	*17	*22	12	*18
12	(19)	*15	*19	(12)	(16)
14	(25)	*18	*16	19	25
16	28	16	(16)	22	30
18	29	(13)	(15)	21	*33
20	28	21	28	18	*36
22	23	*26	34	(12)	*35
24	(20)	*29	36	(11)	*33
2	*18	*29	36	(10)	*27
4	*18	*27	34	*18	*23
6	(18)	*24	*32	16	*20
8	(16)	*20	*26	14	*17

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	19	(13)	*22	12	*17
9	(20)	11	*19	16	*18
11	28	*17	*18	*20	20
13	33	15	(18)	*23	*27
15	34	(13)	(16)	*23	*31
17	33	(12)	(15)	*22	*34
19	*30	(15)	(23)	*20	*35
21	25	20	32	14	*35
23	*21	23	35	*13	*33
1	*19	20	34	11	*27
3	*15	17	32	*10	*23
5	*21	15	26	*13	*20

redemption of foreign-issued International Reply Coupons and was informed that IRCs issued between 17 February 1985 and 2 April 1988 are worth only 37 cents; those issued between 3 April 1988 and 2 February 1991 are worth 40 cents, and those issued between 3 February 1991 and 31 December 1992 are worth 50 cents. Any IRCs issued before 17 February 1985 have no redemption value. Art says this is what was stated on an USPO memo dated 4 January 1993.

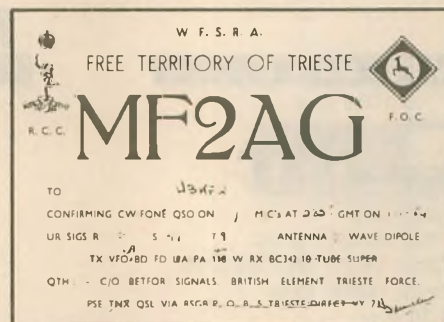
Now, that is to show you how our postal service is informed, and from what we understand there is apparently some discrepancy depending on whom you speak with in the postal system. Chod Harris, VP2ML, of *The DX Bulletin*, recommends taking your IRCs to another post office if you get the run-around. The IRCs are redeemable only in postage. We suggest that if you have IRCs to check the issue date and act accordingly. We have several with no issue date at all.

Antique QSLs

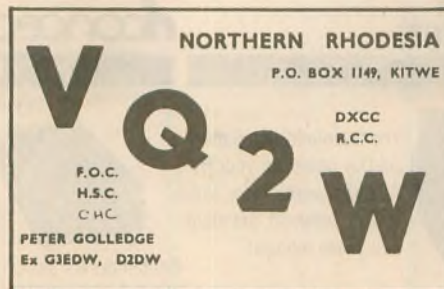
The following old QSL cards are from the collection of the late Clarence Fry, W3KFK, submitted by Joe McConaghy, K3JGJ. These are in addition to the collection that was included in our February column.

Back in 1954 Clarence worked

MF2AG on 40M CW. The card indicates that this was the Free Territory of Trieste.



Just 30 years ago Clarence worked VQ2W of Northern Rhodesia on 20M CW. This station was operated by Peter



Golledge, ex-G3EDW. This country is now known as Zambia using the 9J prefix. Peter, the operator, is back in England with his old call.

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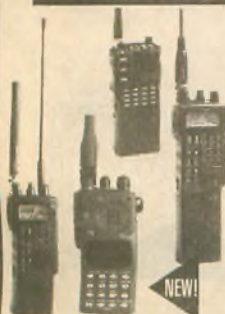
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QSL information

According to Stephen Pal's (VK2PS) How's DX column in *Amateur Radio*, an Australian publication, Antoine Baldeck, F6FNU, is the QSL manager for many DX stations with French-speaking operators or stations connected with former French possessions. According to his own QSLing rules, you have to QSL directly within six months of the activity, and the return postage is US \$2. No IRCs or bureau cards will be accepted.

We have sent cards to Antoine in the past according to his rules and have found a fairly fast turnaround on them.

Le Henderson, KB6MXH, is now the QSL manager for Stan Torbin, UA9TF. If you have not received a card for Stan's UH3E/UA9TF DXpeditions, please resubmit via KB6MXH.

The *DX Bulletin* recommends when sending QSL cards to the Baltic States (ES, LY and YL), to add "via Sweden" or "via Finland" to avoid the long delays via Russia.

Kemper Beasley, K8KZW, is looking for a good address for QSL manager WB0DUL, for HB9TF, whom he worked in 1989. Our sources of QSL routes show no manager for HB9TF. We suggest you send your QSL request direct to HB9TF—or use the bureau!

QSL routes

3X0HNU	—F6FNU (see note 1)	C9RLA	—KB8NNF
3Y2GV	—LA6ZH	CN2GF/P	—IK1GPG
4K3RZ10A	—G3TOK	CQ9FF	—CT3FF
4K30MA	—RA10A	EA9KF	—WA60TU (see note 2)
4M5V	—W1AF	ER0F	—DF8BK
4N2DD	—9A2GU	ET3RA	—HB9CVB
4N4DEJ	—DJ0QJ	FK8FU	—NA5U
4N4EZF	—DJ0QJ	GB100MR	—GD3AHV
4S7VLG	—G3VLX	GH3DVC	—GJ3DVC
4U1UN	—W8CZN	HC8A	—WV7Y
4X1A	—KC1WY	HC8KU	—DK5VP
5H3/N4QQJ	—W3HCW	HCBU	—WA60TU
5R8DD	—JA1SWL	HF0POL	—SP9DWT
5R8DG	—F6FNU (see note 1)	HR6/NN7A	—NN7A
5R8DH	—JE8XRF	HS0AT	—DH0FAZ
5R8DK	—JH8WAH	IU0PAW	—IK0SHL
5R8DM	—JE8XRF	J73FTC	—N9FTC
5U7M	—JARL	JQ1NGT/JD1	—JQ1NGT
5V7DP	—N6MMF	JW0F	—SP2GOW
7Q7TA	—JH1OCC	JY9ZK	—KA5ZMK
7S4SKJ	—SM4EAC	KA3TCY/VP9	—KA3TCY
8P6J	—WA60TU (see note 2)	KC6ML	—JA2ORW
8P9AY	—K1OCC	KP2A	—W3HNC
8Q7XX	—DJ8MT	L1DSR	—LW3DSR
9A2DW	—YU2DW	N6TJ/T12	—WA60TU (see note 3)
9F2CW	—DK7PE	N6TJ/EA9	—WA60TU (see note 2)
9G5AA	—PA2FAS	N9OQS/T5	—WN2R
9K2DX	—WA60TU (see note 3)	NP2CG	—WA2NHA
9K2ZW	—KD4NDS	OE0BBF	—OH2BBF
9M2BV	—VE3BV	OH0MYD	—OH3MYD
9V1XQ	—K2QBV	OH0NL	—OH3NL
A22EX	—N4CID	OJ8/OH3AC	—OH3AC
A28JR	—KC4UCE	OM3TDP	—OK3TDP
C6A/WA1IML	—WA1IML		

OX3MZ	—OZ1MHZ	VP2E/N4BWS	—WB4CKO
P29NB	—K3BYV	VP2EBN	—KA3DBN
P400Z	—KG7OZ	VP2M/N6ULI	—N6ULI
P40P1	—K4PI	VP2M/AA6MV	—AA6MV
P5RS7	—JA1HGY	VP2V/KG6WI	—N9DRU
R3RRC	—I1WHY	VP5/WA0PUJ	—WA0PUJ
S01A	—EA2JG	VP5/W5MUG	—WN5YTR
S0RASD	—EA2JG	VP6F	—KR0Y
S21ZG	—W4FRU	VP6H	—WA0PUJ
S42U	—ZS2U	VP6VN	—G4LZG
S92ST	—K4BAI	VR6BB	—JF2KOZ
T31AF	—DL2MDZ	VR6JJ	—JF2KOZ
T55C	—WA6CDR	VS6YHT	—G4RKG
T55FO	—5Z4FO	W0RJU/KP5	—N0TG
TL2RR	—OH2AC	XF0C	—(see note 4)
TL8AK	—FD1SLL	XF4JC	—XE1ECR
TL8TM/GW4	—F6FNU	XR6M	—CE6TC
TT8TT	—KL7QH	XU1EGC	—DG1EGC
TZ6NU	—F6FNU (see note 1)	XU2ZP	—LA2ZP
UA0FH	—WV7Q	XU5SE	—F6FNU (see note 1)
UA9TF	—KB6MXH	XU7VK	—HA0HW
UO50LW	—SP7LZD	YA1AR	—SM0DJZ
UR8J	—W2FXA	YJ0ARV	—JA3HRV
UX1A	—KC1WY	YN0YN	—KN9P
V31JZ	—NN7A	YV0YV	—WD4AVP
V31RL	—NG7S	YS1S	—ZD8VJ
V31RY	—WN0B	ZD8VJ	—G4ZVJ
V47G	—NL7GP	ZD9CO	—W4FRU
V51AT	—DF5JQ	ZF2TT	—W6NLG
V73DO	—KX6DC	ZF2TV	—AA6KX
V73IO	—AH6IO	ZF8AA	—N8AG
VA1S	—VE1AL	ZL7AA	—ZL2AL
VK9CB	—VK6LA	ZL9/HB9TL	—HB9TL

5R8DL —Box 48, Tomakomai 053, JAPAN

9J2CV —Caamillo, Box 70992, N'Dola, ZAMBIA

9Q5TV —Box 12646, Kinshasa, ZAIRE
AH1A —MHDXA, Box 1, Franktown, CO 80116

GH3DVC —Box 338, JERSEY
J28BM —Bob Frick, Djibouti, Dept of State, Washington, DC 20521

KC6OK —OKDXA, Box 73, Owasso, OK 74055

KC6RR —OKDXA, Box 73, Owasso, OK 74055

KC6SS —OKDXA, Box 73, Owasso, OK 74055

KK4DK/KH9 —OKDXA, Box 88, Wellston, OK 74881

S599KAB —Box 70, Sobota 69000, SLOVENIA

S92YL —Leslie, Box 522, Sao Tome DRSTP, West Africa via Portugal
T21XO —Holger, Box 73, 1020 Berlin, GERMANY

T25AO —Box 73, Berlin 1020, GERMANY

TR8GR —Box 800, Libreville, GABON

V63DJ —Box V63, Kosrae Island, FSM 96944

V73B —OKDXA, Box 88, Wellston, OK 74881

V73S —OKDXA, Box 88, Wellston, OK 74881

VR2GO —Tom Ewing, G.P.O. Box 9887, HONG KONG

VU2MSW —3A Kanja, Nofra, Bombay 400005, INDIA

VU7API —Box 41366, Nashville, TN 37204 (see note 5)

VU7CF —Box 41366, Nashville, TN 37204 (see note 5)

Y1IAL —Box 7075, Baghdad, IRAQ

Notes

1. The 1993 *Callbook* address is incorrect. Use P.O. Box 14, F-91291 Arpajon Cedex FRANCE. Use two green stamps, and no IRCs.

2. This route applies for the 1984 CQWW only.

3. This route applies for the 1981 and 1983 CQWW only.

4. Two QSL routes are given for this one. For contacts made on 6M and above, including satellite, send your requests via XE1TD or XE1GRR, Rafael Antonio Rocha Gomez, P.O. Box 1-1785, Guadalajara, Jalisco 44100, MEXICO. For contacts made on HF, send your requests to P.O. Box 231, Colima 2800, MEXICO or to XE1BEF via registered mail. Use *Callbook* address for XE1BEF and XE1TD.

5. Include a green stamp for each copy of postage forwarding to and from India.

Many thanks to the following contributors: EA5KB, VE6VK, K1ER, WF1N, W4UNP, WA5QCP, KC6WYX, KB6MXH, W6NLG, WA6OHB, AA6RE, W6TUR, KC6WYX, W6XD, N7SWU, W7YS, W8AEF, K8KZW, NE8Z, N9HUB, Salt City DX Association (KB2G), Northern Arizona DX Association (W7YS), Western Washington DX Club (WA0RJJ), Northern California DX Club (AF6S), The American Radio Relay League (K5FUV), *CQ Ham Radio*, *The DX Magazine* (VP2ML), *Long Skip* (VE3IPR), *The W6GO/K6HHD List*, *The Long Island DX Bulletin* (W2IYX), *QRZ DX* (W5KNE), and *The DX Bulletin* (VP2ML).

Ron Faulkner, W6TUR, a regular contributor to our column, gave us some interesting comments regarding the recent P5RS7 North Korea DXpedition. Ron says, "I heard him often on 15 and 20 SSB, but he was weak and the police and do-gooders on his frequency ruled out working him. Don't you hate it when cousins marry? And they all get into DXing!" The best of DXing to you! Perhaps we will see you at Visalia and Dayton — de John N6JM. WR



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Silent Keys

Gene Banta, W4SGI

H.E. (Gene) Banta, W4SGI, became a Silent Key at 88 years of age.

He earned a Ph.D. degree in physics at Rice University in 1932. He worked as a geophysicist in Texas until he moved to Oak Ridge, Tennessee, in 1950.

He worked at the Oak Ridge National Laboratories as a neutron physicist and a professor at the Oak Ridge Associated Universities until he retired in 1969. He authored and co-authored 32 scientific papers during his career while at Oak Ridge.

Not only did Gene have an outstanding professional career, he excelled as a radio amateur as well. Gene was first licensed as W5NQA in Houston,

Texas, in 1946, and served as emergency coordinator there.

Gene moved to Oak Ridge, Tennessee, in 1950, and his amateur call sign was changed to W4SGI. He always maintained capabilities to use most of the amateur bands; he had the capability to operate from 160 kHz to 1296 MHz, and his QTH was at an elevation of 2,800 feet.

Gene was appointed Official Bulletin Station in 1952 and had served as OBS with distinction continuously until his health forced him to cease on-the-air bulletin dissemination in August 1992. Due to his faithful service over the past 40 years, he was awarded the Certificate of Merit and placed on the status of Official Bulletin Station Emeritus.



All of us who knew Gene thank him for the influence he had on our Amateur Radio lives and all that he did to advance the cause of Amateur Radio throughout the Tennessee section.

—Information submitted by
O.D. Keaton, WA4GLS

H.H. Beverage

Harold Henry Beverage, ex-2BML, co-inventor of the wave antenna, died on 27 January 1993 in Port Jefferson, Long Island. He was 99 years old.

H.H. Beverage was a radio engineer and RCA scientist who held over 40 patents in his field. His contributions to the advancement of communications technology include helping to develop the diversity system for HF reception.

He received the Armstrong Medal from the Radio Institute of America in 1938 for his work in the development of aerial systems. The Beverage antenna was cited as "the precursor of wave antennas of all types."

His professional career started with General Electric Company; then he went on to the RCA Corporation where, in 1920, he was placed in charge of developing receivers for trans-oceanic com-

munications. Nine years later he was named chief research engineer of communications and, in 1940, achieved the title of vice president in charge of research and development at RCA Com-

munications, Inc. Upon retirement in 1958, Beverage continued to work as a consultant. —Information from the New York Times, 2 Feb. '93, submitted by Sam Beverage, W1MGP.

Rudy Plak, W6TIK

A brief note came to our offices shortly before press time reporting the death of Rudy Plak, W6TIK, on 10 February 1993.

Rudy, dubbed "Mr. Antenna," served as general chairman of the HamVention in Dayton in its earliest days. After moving to California, he manufactured antennas under his own name and was a long-time advertiser in *Worldradio*.

He is survived by his wife, Jane, WD6AET, and son, Jerry, KA6BST. He will be sadly missed by the Amateur Radio community.

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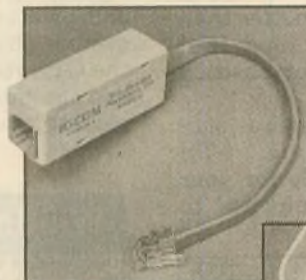
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The GPS portable rigs may be hooked into a packet system.

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If you regularly mobile off the paved roads, take part in county hunting, or do mountain-top grid hopping, you will probably need a lot more than your AAA road map to spot your precise position. The Global Positioning System, with hand-held receivers under \$700, is just for you! Not only will it tell you where you are within a couple hundred feet of your exact geodetic position, but this same equipment might also be tied into your ham equipment to automatically transmit your position over packet.

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help you home in on a circle no greater than 15 feet in diameter.

Differential correction signals, for mariners, are transmitted over local low-frequency radio beacons between 285 kHz to 325 kHz along the sea coasts. For big-city users, and inland users, local differential corrections are imbedded on the sub-carriers of FM stereo broadcast stations and continuously update your GPS receiver's performance down to that tight 15 ft. circle. And for surveyors, they might set up their own differential station and be able to plot their position down to an *inch* or so of their exact geodetic position!

The hand-held GPS makes good sense for ham radio mobile use. These rigs are priced from \$650 to \$1,200 and feature an external antenna system that may be deployed when the GPS receiver is on your front seat and the antenna is out on the trunk lid picking up the incoming 1500 MHz

spread-spectrum signals from a minimum of three to five polar orbiting satellites. If you try to use your GPS inside a vehicle with its little



If you travel off the road, GPS can spot your position within a 100 ft. circle.

built-on antenna system, you probably won't get much reception until you put the hand-held on your dashboard for a clear view of the sky.

You would also run your portable GPS hand-held off your vehicle's 12V system. This allows you to keep your batteries fresh until you may need to put the GPS in your back pocket as you hike up into the local mountains. GPS hand-held receivers last about the same amount of time as your ham radio hand-held transceivers—anywhere from four to six hours of continuous running. Most GPS units run on alkaline batteries for extended battery life.

The GPS hand-held receivers also output a position datastream as defined by the National Marine Electronics Association 0183 standards.

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his model allow you to tie your mobile or hand-held GPS system into packet radio for almost automatic position updates. Wow, think of the many uses of linking GPS into packet radio: automatic position reporting; transmitter hunts; emergency ARES and RACES activities; checking the position of your newly licensed teenager out on the road in your car!

If you are into packet radio, write the following organization for details on their NMEA 0183 datastream output that is found in virtually every

portable and mobile GPS receiver: National Marine Electronics Association, P.O. Box 50040, Mobile, AL 36605; 205/473-1793; FAX 205/473-1669.

The National Marine Electronics Association has standardized the digital output and input data language on all GPS equipment. They are your first source for interfacing GPS to packet, RTTY, or AMTOR.

And even if you don't interface your mobile GPS rig, a portable unit in your hip pocket is one great way to know when you have arrived at a new

grid square for the upcoming June VHF/UHF contests! GPS will soon be the navigational standard of the country and, quite possibly, the world. **wr**

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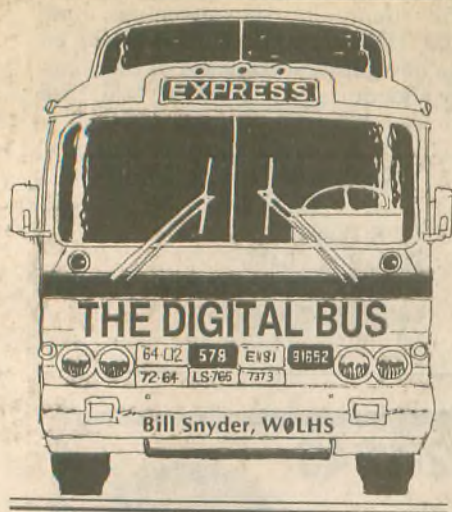


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CALL (LIMITED QUANTITIES)



While digging through my archives recently, I discovered a copy of *CQ* magazine from April, 1953. I slowly flipped through the pages and chuckled at some of the advertisements. Hallicrafters, for example, advertised an S-40B receiver, complete with one RF and two IF stages, and band coverage from 540 kc to 43 mc, for only \$119.95. They also offered a 100W TVI suppressed HT-20 transmitter featuring "full band coverage, no plug-in coils, a choice of 10 crystals, and a low-pass output filter" for \$449.50.

Ham equipment bearing the names of Gonset, Sonar, RME, James Millen, Heathkit, National, Eimac, Collins, Bliley, Bud, Barker and Williamson, and RCA were featured in the corporate advertisements. How many of those names do you recognize? They all had a part in my 60 years of chasing the Amateur Radio hobby. No mention of Kenwood, Yeasu, Cushcraft and Icom could be found in that issue of *CQ*. Times have certainly changed in 40 years. Names come and go.

One of the editorial items in the magazine was "Getting Started on Side Band" by Jack Brown, W4OLL (an RTTY pioneer). It was a construction article with schematics and a parts list to help you roll your own sideband receiver and join the swing from AM to SSB. AM was the phone mode of 1953.

A year previous the ARRL National Convention was held in Seattle and I was there. One of the highlights of the

convention was a seminar on sideband phone. It was hailed as the new wave of Amateur Radio and the phone method that was going to make room in our phone bands for many more thousands of amateurs. If I remember correctly, it was George Grammar of the ARRL staff that held the seminar.

I was very impressed by the SSB presentation; however, ever since my days in the 58th Signal Battalion in the Pacific theater of war, I have held an interest in the prospects of Amateur Radio teletype. RTTY, as we knew it then, was confined to AFSK on the 2M band. This mode was being used in the East and West Coast areas where the ham density was high. Most of the participants used auto-start units that clicked on at certain times of the day, copied any messages and then shut down. RTTY below 30 MHz was not allowed by the FCC.

In 1951 teletype machines were scarce items. Even though the US Armed Forces had tons of them left over from World War II, it was hard to latch onto one for ham radio experimenting. The Korean War was in progress, so the Associated Press had been slowed in replacing old model 12s with model 19s. The model 12s had been pounding out the newspaper and radio wire copy for many years. These oil-soaked monster machines, 60 wpm and extremely noisy, were being pronounced surplus by the news-gathering organization. A sharp-eyed New York ham named John Williams, W2BFD, somehow made an arrangement to sell the machines as they came off the AP wires. The price: \$50 each. So, in June, 1952, I sent John the money and waited for delivery.

While I waited, I constructed a tuning unit with heavy duty power supply, polar relays, lots of tubes and sharp tunable filters that I also bought from W2BFD. At the time I was tending the 5K transmitter for WDAY radio. I had been hired for their new TV station while we were waiting for a construction permit (the FCC TV license freeze was on), so management put me to work as vacation relief for the transmitter operators.

Watching a BC XMTR is a dull, boring job. So, to relieve my boredom, I constructed the RTTY tuning unit in between watching the mercury vapor rectifier tubes glass slowly get completely coated and quit. I looked forward to a tube blowing out so I'd have something to do!

I finished the tuning unit and, with the help of the fine lab instruments belonging to the station, I peaked the tone filters as sharp as possible. The mark-space shift was 850 cycles wide in those days, but already 170 had been proposed for ham use.

I smoke tested my boat-anchor style TU by hooking it to the Hallicrafters receiver in the rack near the control console for the BC transmitter. It worked. I could tune in the many commercial RTTY signals and watch the polar relay click back and forth with the TTY signals. I watched that phenomenon by the hour.

Then, in August, the machine arrived. I hooked it to the tuning unit in my ham shack and nothing worked. The printer turned out jibberish. I tuned in every TTY signal I could find. Nothing.

Then I stumbled on a nearby S9-plus Canadian military station. It worked! It copied code groups perfectly, except the Collins receiver drifted as it warmed up. I had to tweak the dial steadily until things settled down, which took a day or two. It was not at all like today with solid-state gear that you can flip on and start copying.

The problem was key clicks. The model 12 had seven magnets and the collapsing magnetic fields each generated a giant key click. I solved the problem by constructing a seven-jug vacuum tube keyer. With that item I could copy about anything I could hear.

At that time Wayne Green, W2NSD, was the RTTY columnist for *CQ* magazine. Green was busy agitating to get RTTY authorized for the HF bands. Bob Weitbrect, W6NRN/W9TCJ, apparently instituted the idea of HF RTTY with the FCC. FCC Docket 10073 was to authorize many new rules for the ham community: 40M phone, RTTY in the CW portions of the HF bands, new identification rules, Novice operations in a band with worldwide range and teleprinter standards.

Comments on Docket 10073 were filed by 266 individuals, clubs and other organizations. A large majority approved and so the package was adopted. 20 February 1953, at 3 a.m., was set as the starting date for all those goodies.

Wayne Green, in his *CQ* column for April 1953, reported the opening of RTTY, etc. this way: "It was a four-way band opening, what with the new 40M phone band, the general class availability of 20 and 75, the new 40M Novice band, and RTTY. After knocking off a couple of

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cal quickies on 40 phone I went down to 3.620 and worked W9TCJ on RTTY. The contact was solid both ways, and we were pretty excited about it."

I missed the first day, but I did get on that first weekend. Unfortunately, I've lost the logs for that part of my life and regret it immensely. But I was on 40M with my Collins equipment and I had 2SOs with both coasts and most of the RTTY gang on at that time.

Wayne's column published the RTTY calling frequencies: 3.620, 7.140, and 4.340. The frequency was measured in the "mark" channel and the "space" was transmitted low. At that time we had to transmit our call signs on CW every 10 minutes. It was quite a few years before that rule was abandoned. In the course of the testimony about Docket 10073 someone proposed that the CW ident be sent every 30 seconds. That idea would have spelled zilch for RTTY if it had been adapted.

Boyd Phelps, W0BP, and another pioneer guru of RTTY, in a letter to Wayne Green's column, offered this advice to the HF RTTY operators: "Be judicious about cluttering the bands with 'RYs' or taped general calls. Years ago phonograph records were outlawed for similar abuses." And that advice was given 40 years ago.

Green's column also published a list of calls that were active on the RTTY HF bands that first weekend. I checked my CD-ROM *Callbook* and found that 13 out of the 41 US calls Wayne listed are still in force: W1BGW, W2NSD, W2PAT, W2PAU, W2JAV, W3LMC, W6RZL, W6OWP, W6ITH, W6MSG, W9ZBK, W9THE, and W0LHS (that's me!). However, I suspect some of the calls have been reissued and are not valid old-time RTTY types now. An interesting thing for me was that W3LMC is another Snyder. His first name is Howard. I'd like to hear from any of those hams who are listed above,



W0LHS readys for the 1953 opening of RTTY operations on the amateur bands below 30 MHz. Partially covered is the model 12 teletype machine; on the desk is a Collins 32-V2 transmitter and a Collins 72-A receiver.

as I often wonder how many are active on RTTY today.

And so RTTY came into being on the high frequency bands of the world. Today, when I tune around the bands, I sometimes think there was more RTTY activity that first weekend in 1953 than on weekdays in 1993.

EAVESDROPPINGS

"I DOWNLOADED THAT FILE, UNZIPPED IT AND PLAYED WITH IT FOR A WHILE . . . THAT HOWLAND ISLAND STATION CAUSED A HOWLING PILEUP—I WONDER IF HE FOUND ANYTHING ON HOWLAND ISLAND THAT WAS LEFT BY AMELIA EARHART . . . MY FAVORITE SONG IS FROM THE MOVIE GIGI: "I'M GLAD I'M NOT YOUNG ANYMORE," BUT I'D LIKE TO REVERSE THE CLOCK A FEW YEARS . . . I'VE JUST BEEN SITTING HERE

PASSING WATTS INTO THE AIR . . . WE HAVE A BILL SNYDER AROUND THESE PARTS WHO IS AN EXTRA CLASS VETERINARIAN, BOTH HAM WISE AND VETERINARIAN WISE . . . I MET YOU IN VISALIA IN PERSON ONCE UPON A TIME . . . I DID NOT GET MY 295 COUNTRIES ON RTTY BY SITTING ON MY FINGERS . . . LOTS OF GUYS DON'T LIKE MY CALLING THE T5 IN THE DARK BUT I'VE GOT A BROAD SHOULDERS AND A HARD HEAD . . . WHAT LID IS CALLING ME A LID? . . . I DON'T SEE YOUR NAME ON THE INVOICE FOR MY EQUIPMENT SO TUNE OFF ME IF YOU DON'T LIKE WHAT I'M DOING. I HAVE 295 COUNTRIES ON RTTY. HOW MANY DO YOU HAVE, LID? . . . I OFTEN WONDER HOW THEY GOT 73 TO MEAN BUST WISHES."

Thanks to KD4NTS, W0HAH, KI0E, W0ML and a score of others for the input to the column. Sometimes we see chatter on RTTY that spoils an eavesdropping session. This happened this month while listening to a real DX hog in action. Write me: Bill Snyder, W0LHS, 1514 S. 12th St., Fargo, ND 58103. My packet address is W0LHS@W0LHS.#SEND.ND.USA.NA. 73 and DIT DIT. WR



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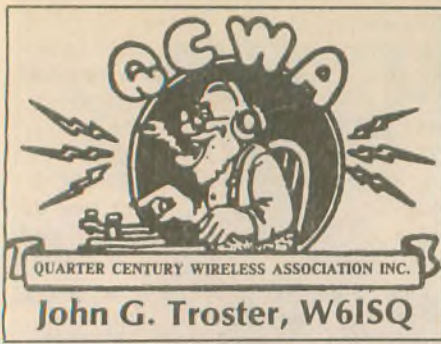
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Foot in mouth

In the January column I made an egregious error which immediately resulted in a telephone call from Mr. Jim Walsh, W7LVN, alert general manager of QCWA. The conversation went something like this:

W7LVN: I know you are new to the QCWA board and new at writing the *Worldradio* column, but we would appreciate it if you could at least get the state correct when mentioning the QCWA headquarters.

W6ISQ: Ahhh, I believe it is Eugene, ahhhh . . . Oregon. Is that close?

LVN: You wrote "WA" in the January issue.

ISQ: But that's impossible. Everybody knows Eugene is in Oregon with the university and the QCWA headquarters and all those important things.

LVN: You told all the folks out there in radioland to write QCWA headquarters to request a free copy of the *QCWA Journal*.

ISQ: Were you inundated with hundreds of requests?

LVN: We had some . . . from people who knew better and sent their requests to Eugene, Oregon. They weren't even members, but they knew it was Oregon.

ISQ: You weren't snowed under by requests for a free *Journal*? Surprising. I thought you might have had to print extra copies.

Communicated by wireless 40 years ago?
Then its OOTC for you! Write to
Old Old Timers Club
1409 Cooper Dr., Irving, TX 75061

LVN: I want you to write with a pencil, "OREGON" ahhtimes.

ISQ: Could I put that on a wheel and spin it?

LVN: With a pencil!!

ISQ: Right, chief: 1. O-RE-GON, 9. OH-REEG-GONN . . .

LVN: And in the February column . . .

ISQ: Was there a February column?

LVN: You made a terrible mistake, so I guess there was a February column.

ISQ: 97. OHH-RENG-GON . . . What'd I do wrong in February, coach?

LVN: You said QCWA membership was \$10 per year. *Not!* Membership is \$15 per year plus an initiation fee of \$3 the first year.

ISQ: 229. OH-RESH-GON. Fifteen bucks plus three bucks first year initiation fee.

LVN: That's correct. However, for two years it's \$25, and for three years membership it is \$30 plus that \$3, of course, if you are joining for the first time.

ISQ: Oh, that's where the confusion came from. The linotypist again. Three years for \$30 plus \$3. What a bargain.

LVN: Better yet, just tell your readers, if you have any, to send for an application blank to QCWA headquarters, 159 E. 16th Ave., Eugene, You-Know-Where!

ISQ: Okay boss. Can all this mean that I am now allowed one mistake a month, if they are not too big?

LVN: Click.

ISQ: Boss . . . hello, boss? . . . hmmm

Doghouse city. Actually, Jim was pretty cordial considering all the problems I gave him. And I don't want to use up more than my allotted one mistake per month. He did say one mistake a month, didn't he? I'll have to be more careful. 483. OH-WAR-GON 727. O-WAR-TON.

Freebie

Actually, I called Jim back and asked for a favor, which he granted! I said, "Pick a number between one and 100." He said, "67."

That means if you are number 67 to join the QCWA in the period between publication dates of the spring and summer *QCWA Journal*, you will receive a personal letter of appreciation from QCWA General Manager Jim Walsh, W7LVN. Mr. Walsh usually does not write just one letter. He is more likely to run off 25 copies of something for the board of directors and advisors, or 10,000 copies for the membership. But just one letter? Rare to never! The winner will have something to frame as well as a valued membership. You can join today. The QCWA HQ address will be found above. Be sure you have the proper state.

894. WARSH-TON, 943. WARSHIN-GON.

I better call Jim Walsh again and tell him I'm almost through writing. 1000. WA-SHING-TON.

"Hello, Mr. Walsh, I'm through writing that state name of yours. All 1,000 times!"

"I believe if you had been listening carefully you would know that I really meant 2,000 times. Back to work."

"Aye, aye, Sir." 1057. WARSHIN-GON.

Elmer who? Elmer you!

One of the great opportunities a chapter or an individual may have is to interest someone in the hobby, sorry service, of Amateur Radio, and help him or her along the road to a license and the enjoyment of being a radio amateur operator. Remember the person who first let you listen to his rig, spark or CW, or even AM phone? Maybe he let you say, "Hello, my name is . . ." to someone in the next town, or even Australia. You looked at all the wires in the trees or at a rotary beam and blinking lights and moving meters the transmitting and receiving equipment with all the knobs, and the beautiful QSL cards from all over the world, and you were hooked. We all remember the encouragement and pa-

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ence from the Elmer who got us started.

1106. WARSH-TON.

All this came to mind when I read the article, "Get Involved, How to Start an Elmering Program," by Larry Shima, W0PAN, in last summer's issue of the QCWA Journal. Larry outlined five steps in organizing an Elmering program for chapters or individuals. These phases, used one meeting at a time, are: 1) Introductory meeting to demonstrate ham radio; 2) What's involved; 3) Classes begin; 4) Volunteer Examiners or testing; 5) On the air.

Larry tells about one very successful class, giving reference to an article, "Motivating Newcomers," by Mike Lipiak, KO9Q, in QST, August 1991, p. 56. Mike details his experience teaching all these phases himself and his immense pleasure in doing it—also he success realized.

This is an achievable means of passing the torch, particularly appropriate for QCWAers with their wide experience and know-how. There are chapters and individuals now doing this, some for a long time, on a regular basis. I read about these in the Journal's chapter notes. There's plenty of help in organizing and obtaining instructional materials. The ARRL has a tape, "Now You're Talking," with accompanying materials, as well as other instructive programs. More will be said about this in a later column.

1517. OH-WAR-GON. 1771. OHH-RESH-GON.

I'm writing this in the middle of the CW QCWA Contest that isn't really a contest. It's a party, say the instructions. I'm meeting some folks I didn't know were QCWA like W0ICZ and W9MYY. I usually find them on the County Hunters Net—CW, of course, at 14.056, mobiling around the country. They've given me many new countries. And I just QSOed Walt, W6ASH. He was a pioneer in OSCAR 1 through 10. Remember OSCAR 1 beeping "HI" as it sailed overhead? Walt put in many months on that project. QCWAers pop up doing all sorts of interesting things. 1903. OHH-RENG-GON.

I've about finished writing that state name 2,000 times. Think I'll call GM Jim and tell him I've about completed my punishment.

1991. OH-REEG-GONN.

2000. O-RE-GON. Whew. On second

●●●●DON'T FORGET●●●●

INCLUDE FIRST AND LAST NAMES with call signs.

thought maybe I shouldn't call. I wonder — this is close to 1 April. Naw. He wouldn't. On the other hand, the Oregonians are kinda sensitive about their state, especially where Californians are concerned. Why take a chance? Maybe I'll just put it in the mail.

I feel better. I know you readers who have seen my plight will always, always mail anything to Headquarters, QCWA, to the state of Wash—oops, O-RE-GON. That's OREGON!

Why did you join QCWA?

Were you dragged into a QCWA booth kicking and screaming at a convention? Or had you eagerly counted

off the years until you could join? Had you never heard of QCWA until someone said, "how can you go wrong for \$15 plus \$3?" I'd like to hear about your joining experience. Next month, I'll tell you how I happened to join. Together we might be able to find an ideal way for everyone who has 25 years of hamming to know about, and join, QCWA.

Until then, remember, you can be one of us—the many, the proud, the elite, the QCWA! Write for an application blank to the office in that state listed above! Tell Jim I sent ya.

Until next month, so long Jim, and 73 and 25 to all—Jack, W6ISQ. WR

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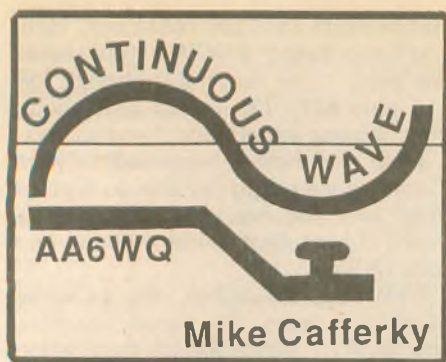
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How the big guns win

He won't admit to being a big gun operator, but W6HAL, Leon Stricklin, knows CW contesting like an engineer knows a schematic. After 40 years of playing hundreds of contests (and winning), a member of the Southern California Contest Club, Leon has learned a few things about what makes the winners win and the others have a lot of fun helping them. In an interview with Leon recently, he shared with me some wisdom which will help CW operators compete in contests. It is this practical information that I want to pass on to Continuous Wave readers.

It was in 1950 that Leon caught the contesting bug. In June of that year he participated in Field Day with the Citrus Belt ARC and, ever since then, he's not been able to peel himself away from his station if a contest comes around. It's the thrill of competition, the drive to improve over the previous year, the desire to accumulate as many points as possible, the exhilaration of being picked out of a pileup and the sense of satisfaction of creating a line of operators waiting to be logged in that keeps Leon and the other top CW contest operators coming back for more, contest after contest.

Contest preparation

For Leon and other serious contesters, preparation begins several hours before the contest. He carefully reads the published contest rules. Since some contests last 48 hours or more, he makes sure to get plenty of rest. Even for short CW spring contests, which Leon calls "a few hours of absolute but exciting chaos," fatigue can keep an operator from winning. Leon also likes to review the results of last year's contest. With this he compares his own productivity goals—the average number of contacts per hour, the total score achieved, improving on his personal best, etc.

One hour before the contest, Leon conducts a complete system check to make sure all his gear is working up to par. Major repairs are completed in advance, for this is no time to find that your three-element beam needs to

be brought down from 40 feet. He adjusts the direction of his beam for the start of the race and makes a mental note of wave propagation conditions.

Leon programs his electronic keyer with the appropriate contest information for both calling and responding. Having one of these nifty little devices is, in Leon's opinion, mandatory if you are serious about winning. It gives the operator more time for logging and minimizes the chances of making time-consuming mistakes with the routine information which is passed.

Leon also checks and sets his clock. Accuracy in logging the time of each contact prevents time-consuming work later. During this preparation time he gathers all the special supplies not already at his operating position. Last, he makes his logging system ready. Leon uses a computerized logging system which saves him a lot of time. This translates into higher contest productivity—more contest points.

With this type of pre-flight check you can expect to deal successfully with the pressures of a contest. CW contesting is not like ragchewing—you're logging almost everything you hear and although that isn't much, it comes at you with lightning speed. You are keeping dupe sheets so that duplicate contacts with the same station are not figured into the final score.

Contesting is not like paddling your way through DX pileups where you can afford to wait for hours to get your shot at the rare one and then gloat over a cold drink. Contests are grueling events where, after several hours, all signals sound the same and the sound of your own call drives you nuts. When you finally hit the switch you realize the contest isn't finished until your papers are in order: the summary sheet, your dupe sheets, multiplier sheets and the log sheets (contests are usually run on an honor system).

Types of competitors

Leon hears two types of competitor during a contest: one group does the winning and the other group helps them win. Winners average 120 or more contacts per hour. They are skillful, with powerful signals which attract others to them. The other operators line up for a "run" at these operators who conclude the event by smiling all the way to the post office.

Winners take rest breaks only when contest rules or band conditions allow. The other group uses the "search and pounce" mode looking for the powerful signals who are calling CQ TEST or QRZ. When they find one, they engage and then search for another. This searching wastes valuable time which is being used by the winners to log more contacts. Operators in this second group may average only 10 to 40 contacts per hour.

Improving productivity

Here is what gives winners the edge:

- Use as much power as allowed.
- Set up the best antenna system possible.
- Use an electronic keyer with programmable memories.
- Use computer-assisted logging systems.
- Learn how to concentrate on repetitive sounds and tasks.
- Stay with it even when fatigued sets in.
- Have high code operating skill even if not a super-high-speed operator. This includes flexibility in changing code speed to instantly accommodate slower operators.
- Use CW filters.
- Operate from a quiet place that minimizes extra noise.
- Read about contesting in the magazines or join a contest club.
- Search for contacts systematically by starting at the top of the band and moving down.

Do these factors sound like an 80 ft tower to climb? Don't despair, for Leon assures me that you can enjoy CW contesting even with a less-than-ideal setup. If you have never tried a contest before, Leon suggests getting involved with Field Day, the annual Sweepstakes, the Novice Round-up or a state QSO party where there is a lot of activity and you can learn fast. Check the contest section of *Worldradio* or other magazines for information on how to participate. Then go for it, and good luck!

Didjano?

The first electronic gain controls were rheostats controlling the filament voltage of the tubes. — SCCARA Gram San Jose, CA

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10-10 INTERNATIONAL News

Chuck Imsande, W6YLJ
10-10 19636

An inexpensive station

It doesn't take a "megabuck" station to make contacts and win awards. Take for example the station of 10-10 member Bob Lindsay, N5XSW, #62183. Bob was first licensed in December 1991 under the no-code Technician program. He did not purchase his first HF radio until August 1992, a Uniden 2600, which he bought used for \$80. With his Uniden 2600, its low power, and an antenna wire stretched out on the roof as a dipole, he has accomplished the following in less than six months.

Bob has made over 500 10-10 contacts and received his VP Award #2654. He has worked over 160 countries and received his 10-10 County Award #288. In addition he has received the OM/XYL Award and has contacted over 25 countries including Croatia, Mozambique, Argentina, Japan and a number of countries in Europe. This was all accomplished without the benefit of any 10-10 contests, as he purchased his radio after the July 1993 contest and accomplished this before the February 1993 contest.

In addition to his Amateur Radio activities on 10M, Bob, being a single parent, is very active in organizations for young people, coaching a girl's softball team, volunteer work at local schools including band chaperone, safety committee member and field trip parent.

In his spare time (??), Bob has written computer programs for use in the classroom to help students with learning—from spelling to math. He also works with young people encouraging interest in Amateur Radio, and is a W5YI volunteer examiner.

This shows what can be done with a mere 25W on 10M. Oh, by the way, in addition to all of the above, Bob has also upgraded to Advanced Class.

1993 10-10 Convention

The 1993 10-10 Convention will be held in Wichita, Kansas, on 25-26 September in conjunction with the Wichita Amateur Radio Club's ARRL Kansas State Convention. Ed Redwine, K5ERJ, #11843, has been appointed 10-10 Convention chairman

with Bob Crenshaw, WA0NGV, #4408, as assistant convention manager.

Watch for more details regarding the 1993 10-10 Convention in the June issue of *Worldradio*.

10-10 Ragchewers

A group of 10-10 members get together on Monday, Wednesday and Friday between 0000Z and 0300Z on 28.400 MHz. This is a new group of 10-10ers and is growing fast. They welcome your check-in to the net. Net control is Don Zak, KA4RVZ, #53657. To become a member of the Ragchewers Net, make six check-ins with the net control and send your QSL card to Don at 3011 W. Wilder Avenue, Tampa, FL 33614.

Caribbean Chapter award

Christopher Columbus came to the New World in 1492. Now, five hundred years later, countries in the New World celebrate the 500th anniversary of the discovery.

During the celebration of the discovery of America and Puerto Rico, the 10-10 Caribbean Chapter will issue a colorful certificate to the first 500 10-10 members who submit proof of contact with at least 10 KP4, WP4 or NP4 stations whose operators are active 10-10 members. Contacts must be made between 19 November 1992 and November 1993 on any 10M frequency.

Send your log information, along with a #10 SASE to PR Amateur Radio League, Fernando Garcia, WP4AFA, #49117, award manager, P.O. Box 191917, San Juan, PR 00919-1917. If you don't want your certificate folded, send a 9 x 12 envelope.

The new 10-10 Caribbean Chapter is sponsored by the Puerto Rico Amateur Radio League. Its main interest is to expand the 10-10 program in Puerto Rico and the Caribbean.

1992 was a good year!

Our hard working volunteer area managers had a busy 1992 processing a grand total of 7,836 additions and/or changes to the 10-10 membership database.

A total of 2,248 new members joined 10-10 in 1992. The Fourth District led with 380 new members, the Sixth District was second with 228 and the

Fifth District and DX tied for third with 213 new members each. There were a total of 384 known members listed as Silent Keys in 1992.

The total of 7,836 changes to the 10-10 membership database included, in addition to new members and Silent Keys, dues renewals, call changes, address changes, family members, life members and name corrections.

We thank all of the area managers and Lee Pasewalk, WB6MGM, #213, 10-10's record manager, for processing all of the data necessary to keep 10-10 running smoothly.

New Tuesday net

We have a new Tuesday net for 10-10. It is held each Tuesday at 1500Z on 28.800 MHz. This net was established to favor the best path time to Europe for 10M, and is run by net control Marv, WB2SJJ, #6090, with Peggy, G4MAE, #32992, as alternate. This net will operate from 1250Z to 1800Z at which time the net control will be handed over to the regular Tuesday net control station, Al, W6RNX. The regular Tuesday 10-10 net will continue from 1800Z until complete. If propagation favors your area to Europe, listen for this new 10-10 net at 1500Z.

Information about 10-10?

If you are not now a 10-10 member and would like to learn more about the 10-10 organization, send me a green stamp to help cover postage, along with two first-class stamps and an address label for the return of the 10-10 Information Package. You will receive a copy of the 24-page 10-10 Information Manual along with a copy of the latest issue of the 32 page *10-10 International News*. Send to: Chuck Imsande, W6YLJ, #19636, 18130 Bromley Street, Tarzana, CA 91356-1701.

Finally

If you have let your 10-10 membership dues expire or have lost your 10-10 number, the same as above (\$1 plus two stamps and address label) will get you the Info Packet along with your lost 10-10 number. 73, es see you next time. WR

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A BASIC oscillator

SPICE is an analog circuit simulation program that almost makes breadboarding obsolete. Your computer and the SPICE software work to calculate circuit performance under a variety of different circumstances. You have keyboard control over the selection of ports and parameters, the computer does the analysis and, when it's done, you can be fairly certain that it will work as predicted.

SPICE isn't new—it was developed at the Berkeley campus of the University of California during the early 1970s. What is new is the proliferation of SPICE-like programs available today—everything from basic analog

design to very sophisticated digital simulations.

I'd like to say that this month's BASIC program is a tiny version of SPICE, and the editors might even let me get away with it in this April column. What we have instead is a program that helps with the design and parts selection for a Colpitts oscillator.

Nearly everyone who has played around with solving resonant frequen-

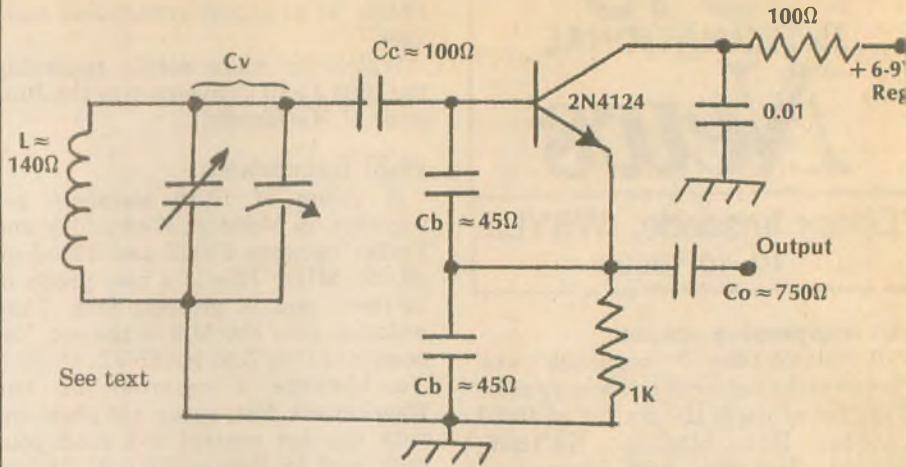


Figure 1. Colpitts oscillator using 2N4124, MPS3563 or similar NPN transistor, showing reactances of the LC components; screen display.

COLPITTS OSCILLATOR

See April '93 Worldradio for details

ENTER MINIMUM FREQUENCY

(MHz) 3.8

ENTER MAXIMUM FREQUENCY

4.0

Co= 51pF

Cc= 390pF

Cb= 910pF

Cv= 73 · 105pF

L= 5.57uH

PRESS [ENTER] TO CONTINUE.

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cy problems with a computer calculator has found that computer component values are nearly impossible to find in real life. We sometimes solve a problem several times, first to get the computer's highly accurate "ball park" answer, then again to get a "real" answer using actual component values.

For example, solving for a certain frequency, the computer answer for one of its capacitors might call for 237.016233pF. We can usually assume that the next closest value will be close enough, so we select a 220pF capacitor and rework the formula to solve for the other component(s).

It's not so bad if you need to rework the program a few times for simple circuits, but what about something a little more complicated? Why not use a reference table in your program so the computer knows what parts are available and makes its calculation based on those set values? This month's BASIC program shows one way to accomplish this.

Figure 1 is a generic Colpitts oscillator, but the values for the inductor and key capacitors are not given; just their reactances. By using reactances we can determine component values for any frequency (with

```

CLS: PRINT "COLPITTS OSCILLATOR": REM IN GWBASIC, BY KD5DL
PRINT "See April 93 Worldradio for details"
PRINT: INPUT "ENTER MINIMUM FREQUENCY (MHz)", A: A=A*10^6: D=10^12
INPUT "ENTER MAXIMUM FREQUENCY",F: F=F*10^6: PI = 3.14159
L=140/(2*PI*F): GOTO 130
DATA 1,2,5,10,12,15,18,22,24,27,30,33,39,47,51,56,62,68,82,100,120,150
DATA 190,200,220,240,270,300,330,360,390,430,470,510,560,620,680,750
DATA 820,910,1000,1200,1500,1800,2000,2200,2700,3300,3700
IF (X>=H AND X<=I) THEN J=(H+I)/2: GOTO 110
H=I: READ I: GOTO 90
IF X<=J THEN X=H: RETURN
X=I: RETURN
READ H,I: G=F*PI: B=D/(90*G): C=D/(200*G): P=D/(1500*G)
T=1/(4*L*G^2): PRINT
X=P: GOSUB 90: P=X: PRINT "Co=";P;"pF"
X=C: GOSUB 90: C=X: PRINT "Cc=";C;"pF"
X=B: GOSUB 90: B=X: PRINT "Cb=";B;"pF"
N=1/(2/B+1/C): E=D*T-N: K=1/(4*L*(A*PI)^2): M=K*D-N
PRINT "Cv=";INT(E-.5);"-";INT(M+.5);"pF"
PRINT "L=";INT(L*10^8)/100;"uH": PRINT
INPUT "PRESS [ENTER] TO CONTINUE",X$: RESTORE: GOTO 10

```

ason) of our choosing. Our BASIC program does just that. The program calculates a more-precise value for the capacitors in the tank, then looks through the data lines to find the nearest "real" capacitor to the computed one. Then these "real" values are used in a second formula to determine the final values for the tuning capacitor/inductor combination. The circuit was designed to give fairly stable operation as a tunable oscillator in the 5 MHz range. The oscillator's frequency, however, is

limited primarily by the characteristics of the transistor, and its stability mostly depends on good layout using the right parts.

This means that the transistor should not be close to heat-reactive components such as the coil and capacitors, and its operating voltage should be kept low enough to maintain a clean oscillation (typically 6-9V from a regulated supply).

As a workbench oscillator, a 9V battery and junk box parts will do fine. If you want to use a circuit in a transmitter project, you should try to use poly-

styrene capacitors (or silver micas), an air-variable tuning capacitor and an enclosed air-wound inductor.

The program

Lines 30 and 40 let you enter the frequency limits of the oscillator. Line 50 solves the value for the inductor, then sends the program to line 130 to solve some of the capacitors' values. Those values are compared, in lines 90 through 100, to the "hard" component values in the data lines. If a value fits the conditions, lines 130 to 150 print the values. If they don't fit, they're tested again with the next higher value.

Line 170 prints the "ball park" range for the tuning capacitor. Usually two or more capacitors are connected in parallel to provide the range swing, and since there are so many possible values for the tuning capacitors, I'll leave their selection up to you. Generally, a main tuning capacitor is connected in parallel with a trimmer capacitor to permit fine tuning the circuit and to make up for inductor values not precisely matched to the one provided in line 200.

Type and run the program using 3.8 and 4.0 MHz as minimum and maximum frequencies. The answers you get should be Co= 51pF; Cc= 390pF; Cb= 910pF; Cv= 73 - 105pF; and L= 5.57uH.

Although this program is written as a Colpitts design program, the same technique can be used quite often to scale other circuits to match a specific frequency. Simply convert component values to their reactances at the design frequency, then convert back to values for the new frequency. It's not SPICE, but even SPICE had to start somewhere.

WR

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Sharing your hobby

Ham radio is *the* ideal hobby! You can do it indoors or out, summer or winter, day or night. Try that with just about any other pastime and you'll come up short, wet, or cold. And here's the real bonus: You get to talk with other people. WOW!

You knew that already, didn't you? And you want to share our great hobby with others, right? Well, here's a suggestion: Help a person who has a physical disability!

Do you know at least one or two persons who have physical disabilities? Of course you do, because the average age of the US populace is increasing, and heart disease, diabetes, injury, stroke, and other primary causes of disability are more likely to occur in an aging population. Aside from wearing your seat belt and eating granola, there's not much we can do about it, either. Even if you and I live our lives through without any physical problems, we will still have friends, neighbors, and relatives who will not be so fortunate. How we relate to persons with physical disabilities is going to be a big deal in the years ahead!

So we are agreed: Ham radio is a great hobby that we want to share



Mel Miller, K5KXL, a long-time volunteer Elmer for the Handi-Ham System, explains tuned circuits with a tactile aid that he has constructed. Mel is among the most successful helpers, because he never misses an opportunity to let others know what a wonderful time they could have with ham radio if only they would get that license!

with others, we would like to help persons with physical disabilities to discover and enjoy it, and we are ready to help. But how?

Start by considering that a person with a disability is a *person* first and has individual likes and dislikes, goals and priorities, just as you do. The

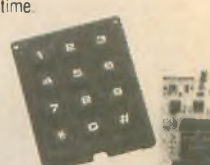
onset of a disability may have radically changed that person's goals, but will not have changed what that person likes or doesn't like. Let me give you a couple of examples:

Bill had always enjoyed meeting people in his police work, but when his vision suddenly clouded, he disco-

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red that diabetes had caused retinal bleeding. Unable to return to patrol duties, he instead worked as a dispatcher.

Jan had no warning when the truck mashed into the rear of her small car. Her seat back collapsed, breaking her neck and causing her to be paralyzed. Instead of completing her university studies in four years, it took seven, but she still became a successful computer programmer.

Both of these folks did what they liked; Bill made a career change, and Jean deferred her career a bit. Both managed to cope, but both will still have to put up with the difficulties that their disabilities present. It will be harder to get around, especially in the winter. Some places will not be accessible. Many recreational activities that they formerly enjoyed will no longer seem as attractive.

Winter ham radio!

Yes, ham radio is the *perfect* hobby, and not just for us, but for persons with disabilities as well. It can be enjoyed summer or winter, indoors or out, and it encompasses such a wide array of modes that it can easily draw persons who have hearing, visual, or motor impairments.

Okay. I have a friend with a disabili-

ty—how do I help?

You can start by explaining ham radio and how much you enjoy it to your friend. Most of us know better than to refer to anyone having a physical disability as “crippled” or “gimpy,” but also avoid patronizing them with politically-correct *new-speak* like “physically challenged,” “differently abled,” or “otherly abled.” Remember that a person with a disability is a *person first*, a person who happens to have a disability! You will never go wrong if you say, “person with a disability.”

If you get the person interested in ham radio, you will need to set up some kind of a study program. Some people will study everything you give them on their own; others will need some Elmering. A person who is blind or who cannot use regular books can study by cassette tape or computer disk, materials that are available through the Handi-Ham System. Friendly encouragement, involvement by local radio club members, and the assistance of Handi-Ham Student Coordinator Pam Westling by telephone and letter will soon have another prospective ham ready for the VE team!

When testing time draws near, alert the VEs to the need for an accom-

modated test, if necessary. Most people test in the usual way, with the only accommodations being simple things like having the test read to them, having Handi-Hams provide a copy in Braille, or having the test in a wheelchair-accessible place.

Finally, after a successful test, you have one more step: helping the person to get on the air. While anyone might need some hands-on help hooking up equipment and antennas for the first time, a person with a disability may need some extra help. Remember that your friend may be nervous about that first QSO (“what if I say the wrong thing or push the wrong button? Yikes!”), so be patient, because all of us took that first step and felt the same way. Soon a new ham will be enjoying the best hobby in the world, and *you* will have made it happen!

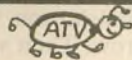
Do you know a person with a physical disability? Why not help that person become a ham? Both of you may join Handi-Hams, which welcomes volunteers and persons with disabilities. Contact the Courage Handi-Ham System, 3915 Golden Valley Rd., Golden Valley, MN 55082; 612/520-0515. WR

SNL Net

The Bi County Radio Association of northern Indiana sponsors a 10M net on Saturday nights, 2400 UTC, on 28.360 MHz. The net is called the Saturday Night Live Net, and all participants are welcome. Look for Mick Slater, N9PGE in Elkhart, IN. WR

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Activities

CLARA HF Contest — 16-17 March

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YLRL DX YL-NA YL (CW) — 14-15 April

YLRL Forum at the Dayton Hamvention — 24 April

YLRL DX YL-NA YL (SSB) — 28-29 April

The sixth of each month is YL Activity Day. Call "CQ YL" on the hour on any frequency ending in 88.

YL Activity Day

YL Activity Day has been around for quite some time, but it wasn't until 1980 that Diana Hughes, G4EZI, first thought of looking for YLs on the hour, every hour, on the sixth day of each month. When Diana's plan was announced, the suggested SSB frequencies were those ending in 88, such as 14.288 or 21.388 MHz, and the CW frequencies were those ending in 33, such as 28.133 or 7.033 MHz. Today, you'll probably have better luck in calling on the 88 frequencies although it's still a good idea to check those ending in 33, especially on CW.

The 24-hour time span gives you a chance to get into all parts of the world, so start calling "CQ YL" at 0000 UTC, then again at 0100 UTC, until 2400 UTC. Some YLs have set up skeds on YL Activity Day and then

invite other YLs who may show up to join in. Others, who may only have three or four hours available, put out quick calls and try to check several of the frequencies. Celia Reed, ZL1ALK, calls on 3.588-MHz at 0800 UTC, and other YLs also have a favorite frequency and time when they can be found.

Just be sure to call, even if you don't hear anyone, because other YLs may be listening. The whole point is to meet and get to know new YLs, and it's also a help if you're working toward some of the YL awards. I've met some great YLs this way and highly recommend it to you.

YL net controls

Some nets have at least one or two YLs serving as NCS and, as you've probably noticed, there are nets for every interest. It follows, then, that you'll hear a lot of YL net controls. One very popular NCS is Myrtle Farnsworth, N2AKC, of the Rooster Net. The Roosters get together early every morning (about 1100 UTC) on 3.990 MHz, and Myrtle is net control on Thursday. She usually has 50 to 70 check-ins, and on one morning she had 104.

There are 824 members, and membership isn't as easy as just writing a check for dues. You must first fulfill the membership requirements by making the required number of check-ins, and when that's been accomplished, you climb up on a chair, face the east and crow. Then you're a Rooster!

The Rooster Net has an annual meeting, and last year Myrtle was honored as the Rooster of the Year at the meeting in Valley Forge, Pennsylvania. She also manages the Rooster badges, pins, T-shirts and QSL cards for the group. If you'd like more information on the Roosters, you can send an SASE to Myrtle or wake up early and check in on 3.990 MHz.

If you're looking for some of those elusive African countries, you might

want to check with Zenda Benton, KD5MD, who serves as NCS for the Africaner Group, which meets at 1800 UTC, on 21.355 MHz, Monday through Friday. This net was organized in the late 60s or early 70s to help operators on the West Coast get contacts with Africa and was later expanded to help new Generals get started with worldwide DX contacts.

Zenda was first licensed as WD5HMX on November, 1977, when she decided to conquer the "empty house syndrome" after her youngest left home for college. After upgrading to Advanced, she began helping with the Africaner Group in 1979, on Tuesdays and Thursdays, and has been there ever since.

Iris Colvin, W6QL, has checked in from most of the countries where she has operated. Christine Shaw, 7Q7BX ex-3DA0BX and H5AF, is a regular check-in. Other familiar YLs heard in the Africaner Group include Jemin Minisnow, YV5NCJ; Laila McClair, JW0GB; Irma Mishellany, OD5MM; Lianne van den Brule, PA3FZZ; Margaret Bendt, TL8BM; Sits Tigaraki, SV3AGQ; Christine Dons, GM4YMM; Elizabeth Kane, GM0MJR; Ella Tugwell, G0FIF; Molly Henderson, Z21JE; Inguu Hanslien, LA8FRA/9K2RA; Anne Grete Eriksen, OX2AE; Laurin Gullette, PT7ZMG; Evelyn Windsor, SV0YL; Maria Santos, CT4YN; Odalis Hernandez, CM5CB; Patti Kellogg, N3CRH/TJ; Usha Thadani, VU2UG; Melitta Radner, XT2BX; Els Webster, 9Y4LL; Cindy Peterson, A24CJ; Monica Maconi, EL2PP; Betty Weaver, FY/KD3FK; Lillian V. d' Ayala, HC4L; Zdena Vondrakova, OK2BBI; Raija Ulin, SM0HNV; Mar Schuitemaker, ZS5V; Mary Atherton, 7P8DF; and Mary Barnard, J88AM.

Zenda uses a Kenwood TS-930S with an LK 550 linear, and a TH7D atop a 50 ft. crank-up tower. She made the DXCC Honor Roll in 1992 and has earned all the YLRL awards, holding YL-DXCC #8 and DX-YLCC #45. Zenda plans to join in the DX YL to N. YL Contest in April, so listen for KD5MD.

A few months ago I wrote that Irma Weber, the present NCS for YL Open House, was one of the original net controls, but Irma was quick to correct the record. Although she has been with YL Open House since it began in 1959, she has only served as NCS from 1961-1968 and from 1971 to the present.

Harriet Woehst, K5BJU, was the originator and the first NCS. In August 1959, she sent a letter to YLs, asking them to meet on September 1959 at 1300 CST (1900 UTC), on 14.260 MHz. The net later

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moved to the present frequency of 14.288 MHz, where it still meets each Wednesday at 1900 UTC. Irma wrote a short history of the net on its 25th anniversary and noted, "Many, many close friendships have developed from contacts made on the frequency, and many YL contests and conventions have been spurred on by the enthusiasm of the net participants."

Ten years later, that is still true. As next year will be the 35th anniversary, it has been suggested that some kind of remembrance or celebration would be appropriate. If you have some ideas about that or memories and experiences to share from the earlier years, why don't you check in some Wednesday? And, of course, you don't need a special reason. All YLs are welcome. And don't forget YL Tangle Net, meeting on Thursday, at 1800 UTC, on 14.298 MHz.

YL scholarships

The Foundation for Amateur Radio, Inc., a non-profit organization, will administer 47 scholarships for the academic year 1993-1994 to assist licensed radio amateurs. Last year 11 YLs were awarded scholarships by the FAR. If you need additional information or an application form, send a letter or QSL card, postmarked prior to 30 April 1993 to: FAR Scholarships, 6903 Rhode Island Avenue, College Park, MD 20740.

DX YLs

You may have worked Candy Okulicz, SP5XAB, and her husband, Andy, SP5SS, from St. Pierre Island, when they operated there last September and October. They left Warsaw by car for a 30-hour drive to Zurich. They spent one night in Germany and operated from the station of DL0KU along the way. From Zurich, they flew to Montreal, Canada, and had a 22-hour train ride to Halifax, where they flew on a small plane to St. Pierre Island. Traveling all the way with them were an Icom IC751A, Yaesu FL2100, a Butternut HF6V and a WARC dipole.

Although Andy had been licensed for many years, Candy had only observed his Amateur Radio operations with interest, but she quickly started studying for her own license when the DXpedition was planned. She only had time to make a few contacts from Poland, but she plunged right into the FP8 pileups. Candy's name is actually Iwona, but on the air she uses Candy, and the team of Candy and Andy is very active. If you worked FP/SP5SS or FP/SP5XAB, you can QSL direct to P.O. Box 133, 02-670 Warsaw 13, Poland. If you missed them then, you can catch them



Iwona "Candy" Okulicz, SP5XAB, can be found on 21.260 MHz at 1700 UTC from her home station in Warsaw.

on 21.260 MHz at 1700 UTC, from their home station in Warsaw.

Dot Truhlar, N9ALC, will be operating from the Cayman Islands for one week, beginning April 19. She's looking forward to many contacts. Look for ZF2UA.

Leslie Lewis, S92YL, just got on the air in January. Lenny Mendel, K5OVC, reports that her husband is Charlie, S92SS, ex-A22AA, and their address is Box 522, Sao Tome, West Africa, via Portugal. Leslie was Lenny's 269th contact for YL DXCC, and he's now looking for Merethi, LA8TAA, operating JX8TAA on Jan Mayen Island, and the new YLs who are expected soon from South Orkney and from Cape Verde.

The next column will have a report on Asian YL Meeting '93 in Osaka. I'll be joining Lia Zwack, WA2NFY, and Nellie de Lazard, XE1CI, in Los Angeles for the flight to Osaka. Our

seat assignments are 33A-C, so we're already off to a good start! (You probably already know that YLs have signed "33," meaning, "Love sealed with friendship between one YL and another YL" for over 50 years now.) Lia has been re-issued her previous call of 7J1ADY and she hopes to operate in the CW portion of the DX YL-NA YL Contest from Tokyo.

I'll be the moderator for the YLRL Forum at the Dayton Hamvention (Saturday, 11:45 a.m., Room 2), so let me know what you'd like to discuss. I'll look forward to seeing you there. WR

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This month marks a changing of the guard for the QRP column. Rich Arland, K7YHA, who has been QRP editor for almost seven years, is now devoting his full energies to "Amateur Satellites." Beginning with this edition, Richard Fisher, KI6SN, is conducting *Worldradio's* QRP column.

Extra, extra . . .

Before there were the wonderful electronics parts houses of today, there was my neighbors' trash. And, believe it or not, that's largely what got me started in QRP.

Delivering the morning edition of *The Boston Herald-Traveler* as a 14-year-old, I was a couple of hours ahead of the garbage truck. So, every broken television or radio sitting at the curb along my route never made it to the dump. Instead, it went through reincarnation in my garage.

As WN1DWL, circa 1965, I dreamed of building a big rig with a pair of 813s in the final, modulated by 807s, good for a kilowatt. But you can't do that with an empty wallet, and the reality was that RCA never needed those high-power tubes or components in its TVs or table radios.

I was stuck with 6AG7s, 6AQ5s and 6V6s—not to mention lots of "condensers," resistors, chokes, octal sockets, 360V power transformers. It was the stuff broken TVs and radios—as well as low-power transmitters—were made of. And it was a good thing.

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After a month or two on the 40M Novice band with gear crafted from the neighbors' junk, the dream of the big rig paled. With 4 or 5W blazing from a 6L6 mounted on an upside down pie pan, I was working about everything I could hear. This, and a simple homebrew two-tube regenerative receiver was all I needed, or wanted.

Less was more. It felt good. Over 28 years, three upgrades and six call changes (WN1DWL, WA1DWL, WA4KTN, N2EVH, N6MKA, KI6SN), the feelings haven't changed. I'm still a QRPer and loving it, in the company of thousands of you others.

Yes, I've replaced the 6L6s with 2N3553s; the regeneratives with solid state superhets. I've stretched beyond the 40M Novice band across a fabulous span of frequencies and modes, satellite operation, nets and contests—all enjoyed with less power than it takes to illuminate the lightbulb inside my refrigerator.

I've found my way far beyond the Novice-days Ragchewers Club to the rosters of QRP Amateur Radio Club International, G-QRP Club of Great Britain, Michigan QRP Club, North-West QRP Club, QRP Club of New England, Oklahoma QRP Group, North-eastern Illinois QRP Society, AMSAT and the ARRL as a life member.

My Field Days are spent with the Zuni Loop Mountain Expeditionary Force, peopled by some of Southern California's most avid QRP operators. I like building. I like operating. And some of my very best friends are QR-Pers. That's who I am. Now it's your turn.

What aspect of QRP do you like most?

What would you like to read more about in this column each month? Send me a photograph of yourself and your station; your portable operation; your homebrew successes. Let this column help deliver the good news.

What's been bugging you in the world of QRP lately? This is a place to get it off your chest.

Need help in solving a problem? Or do you have a solution? Please, enter here.

It may sound trite, but I really mean this: This is your column, too. Let me know what you'd like to see and I'll do my best to deliver.

I would be remiss in this opening soiree if I didn't offer sincere gratitude to my predecessor, Rich Arland K7YHA. It is he who first tapped my shoulder about taking over the QRP column—a body of work he has so faithfully written and expertly developed for seven years.

Rich has done much for QRP and QRPer as a columnist, author and purveyor of the virtues of low-power operation. His longtime contributions have not been lost on avid QRPer around the world.

It is fortunate that the pages of *Worldradio* will continue to carry Rich's voice in "Amateur Satellites" his new column right up the street from his old QRP haunt. I wish him continued success.

Introductions over, now please pardon me a moment. I'd like to take a peek at my neighbors' trash.

Getting started

There are a lot of homebrewers in the QRP arena—and a lot of people who

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would like to build, but they see two hurdles in their way.

First: "My eyes are failing me, and I can't read the values on all those little parts."

Second: "I don't know where to find the fancy NPO capacitors, chips and toroids that I need to build that circuit."

A good magnifying glass will take care of the first problem. For several years I have been using a glass sold commercially as Peak 8X and used by photographers to view individual slides. It is called a loupe and can be found at most good photography stores. It doesn't come cheap, but as a one-time, lifelong investment it will pay for itself many times over—not to mention giving your eyes a break. I also use it to check solder joints and for solder bridges on printed circuit boards. A dime store magnifying glass will work well, too, and it's a lot cheaper. Either way, a glass will help to solve the problem of parts identification.

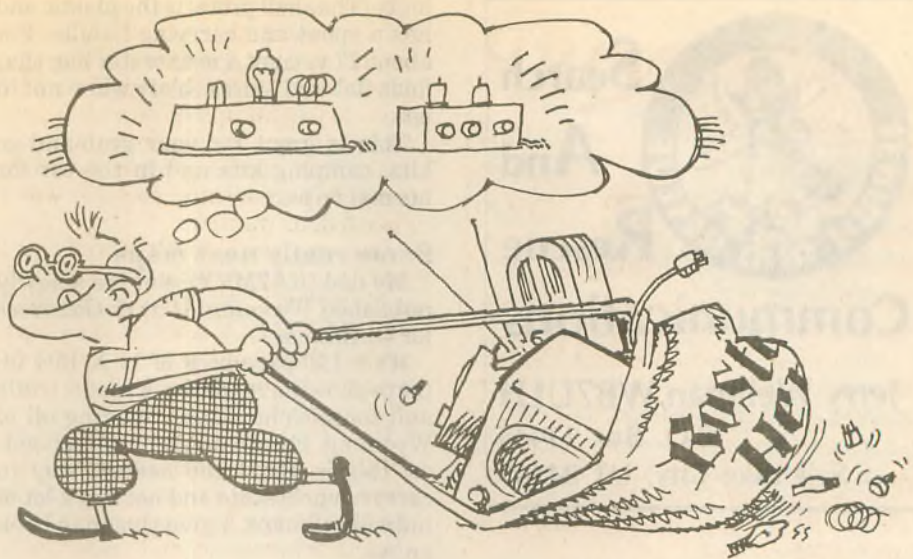
As for finding parts, solutions abound all around us. There are literally dozens of very good parts houses around the United States that stock the myriad components needed in the circuits you've been itching to build. Often, parts sources are listed in footnotes at the end of construction articles. Believe me, though, there's no substitute for a good self-compiled "library" of parts catalogs. It can be done very cheaply and will make life much easier for anyone who wants to get going on a project right away.

Each month this column will list a parts house or two, along with information on how to get its catalog. An investment of 10 minutes each month will build your "library," and in a few months' time you'll have a bookshelf of sources for those seemingly hard-to-find parts. Here are three to get you started:

Digi-Key Corp., 701 Brooks Ave. So., Thief River Falls, MN 56701. Its free catalog lists thousands of parts and can be obtained by calling the company's toll free number: 800/344-4539. The catalog comes out bimonthly. The January/February edition, for example, was 250 pages and one of the most comprehensive you'll find.

Mouser Electronics, with distribution centers in Santee and Gilroy, CA, Mansfield TX, and Randolph, NJ, has a nice catalog that can be obtained by calling toll free: 800/346-6873. The latest edition in my collection has 207 pages listing thousands of parts. It, too, is free.

A third catalog I'd consider a "must have" is Amidon Associates' which specializes in toroidal cores and inductors. It seems that toroids are everywhere in today's electronic design, and I've found



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Amidon to be a one-stop shopping source for them. The mailing address is: P.O. Box 956, Torrance, CA 90508. For a free catalog either drop them a written request, or call: 310/763-5770.

Finally, for those who'd like to try their hand at building (but not from "scratch") there is a growing number of companies offering kits. One of my favorites is Oak Hills Research, 20879

Madison St., Big Rapids, MI 49307. Its 16 page catalog lists projects for both the beginning and advanced builder. In addition, Oak Hills is a company that falls on the cusp of being a kit source and parts house, as it carries a listing of hundreds of parts well suited for the QRPer in addition to its kits. Oak Hills can be reached at 800/842-3748.

In coming months we'll add to this list of parts and kits sources and detail how to obtain their catalogs.

If there are sources you particularly like, please drop me a line and they'll be included in an upcoming column. In my experience, you can never have too many catalogs, and having that "library" at hand opens the door to shopping for the best deals around. **WR**

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The best part of writing this column every month is receiving reader feedback. You're great folks! You offer suggestions, ideas and input on how you do things, and the best letters are from you brave souls who are getting involved in public service and finding it very rewarding. You're learning new things, you're feeling proud that Amateur Radio can provide a service. Neat!

The agenda this month includes (not in order) newsletters, batteries, water bags, sex and maps.

Each month many of you send me newsletters, each of which I enjoy and read cover to cover. One recent arrival stood out because the "editor" wrote about himself—his name was mentioned 10 times in a five-page newsletter and four other names were mentioned only once.

Pay attention! A good newsletter (and editor) mentions as many people as possible! The editor gets credit because he/she is the editor—so write about what members of the group are doing! A good newsletter not only imparts information, but boasts about members, making them feel good and wanting to keep doing good things. You can't do this without giving names and details! Mention names! Lots of names!

Water bags

Locate your local REI store (or mail order) and find their nylon-shell three-gallon water bag. Inside the shell is a plastic (double ply) insert that's pretty

hefty. The shell protects the plastic and has a spout and carrying handle. For about \$7 you get a neat water bag that folds flat and stores easily when not in use.

This is great for your grab-and-go kits, camping kits and in the car for normal trips.

Some really neat maps

My dad (KA7MVY) sent me a newly published *Wyoming Atlas & Gazetteer* for Christmas.

It's a 120-page book of 11 X 15½ in. maps showing roads, back roads, trails and topographic detail covering all of Wyoming. For an emergency responder, this is about the neatest way to carry a whole state and not buy a lot of individual maps. I give this map book an A+.

The topo detail is sufficient to give a good idea of what's there, and the accuracy of roads and land features is excellent. The maps go well in your grab-and-go kits! Only 21 states are currently available and include most of the Northeast, Northwest and Great Lakes area. Utah, Maryland/Delaware and Arizona will be done in coming months. To locate local sources or obtain a mail order flyer, contact DeLorme Mapping, P.O. Box 298, Freeport, ME 04032 or call them at 800/227-1656.

Battery packs to go

Let's face it. When the battery goes dead, the communicator's job is over. Kaput. Finished. This is not good during an emergency response. You need dependable power, especially operating portable. The emergency isn't going to wait for you to recharge or go look for more batteries!

For the portable communicator, you have these common power options: original NiCd battery, larger capacity NiCd battery, alkaline battery pack or an external power pack.

For emergency response, the original battery pack for portables usually has

too little capacity. These packs often last four hours or less with heavy use. My first recommendation is to get rid of these small (400mAh) packs and get the larger capacity ones. Either from the manufacturer or from a battery outlet, you can get a pack that matches your radio and is typically rated at 900-1200mAh capacity.

My second recommendation is to get alkaline packs for your radios. Check to see that one is available before you buy your portable. With this pack, you can usually carry enough AA alkaline cells to last for the first 24 hours. The pack and extra cells don't take up a lot of space.

Finally, there's the large capacity "power stations." I've looked at the Quantum battery, the Power Products Power Pack and Trionics' power station.

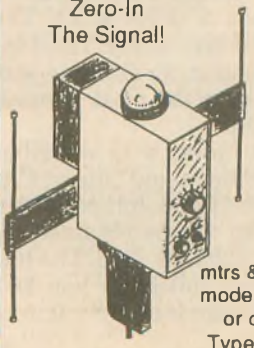
The "Quantum Ham Battery" is an external pack that you hang from your belt (or buy the optional shoulder strap) and via coiled cord and battery adapter it powers your radio. In essence, you remove your battery pack and snap the adapter onto the radio. The Quantum has about 2Ah at 12V using sealed lead batteries. The unit I "evaluated" belonged to another communicator and I had no complaints about dependability or use.

Capacity is my concern (as well as price). The spec sheet claims 2.1Ah, or about 2.3 times my 900mH cell (and 5.2 times a 400mH cell). Various LEDs on the Quantum tell you how much charge is left and if the unit is "on" or "shorted." The Quantum (if ordered from the factory) is \$145 for the battery and charger. An Icom 02-AT adapter (for example) costs you another \$32 for a grand total of \$177, or about \$84 per amp-hour. Adapters were not available for my Kenwood 2600. (For comparison, a

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00mH pack cost me \$65, or about \$72 per amp-hour.)

Power Products Marketing sells a unit called the "DC Power Pack." Advertised prices range from \$70 to \$100. I also found the same basic power pack at a department store for about \$50. If you order the Amateur Radio version, for about \$80, you get a carry-around power pack, a charger, a Y-connector, carrying strap and a plastic radio holder (so your radio can clip to the side of the pack.)

When I ordered one, I didn't specify the "ham radio" deal so it cost me about \$100 and I got all the stuff mentioned above along with a clip-on light, an extra radio mounting plate and a pouch to carry the accessories (which I'm not convinced were worth the extra cost).

The unit has a 6.5Ah battery so my cost per amp-hour was about \$15.30. (If you buy the department store version, the cost per amp is about \$7.50, minus all the attachments.) Not too bad. The unit can charge from a wall charger or from the vehicle using a built-in lighter plug. Various LEDs on the unit tell me when it is on or charging, if it is getting low and if the fuse is blown. Connection is made by a lighter plug on the front. With this product, you either use the lighter plug or open it up, drill holes and make your own wire connections. It weighs about seven pounds.

I like the carrying strap, the charging cord stored in the handle, the indicators and the mounting plates. I've added some additional power jacks for my custom radio cables and I wasn't happy when my portable broke one of the plastic plates. The mountings seem less than secure and I'd hate to have my radio come loose and get lost. I also wasn't too happy to find the battery side had a 1991 date on it.

Finally, Trionics sent me one of their power stations. The advertised cost is about \$85, including shipping. It is also a 6.5Ah sealed battery so you're paying about \$13 per amp-hour.

This unit is similar to the Power Products one, but for the price you get

Technical talks

Pacificon '93 will be sponsored by the Mount Diablo Amateur Radio Club and will be held at the Concord Hilton in California. The theme this year will be technical one—Amateur Radio into the next century. If you have a particular technical topic which you would like to see presented or, better yet, if you can present a talk, please contact Larry Payne, W6CPO, 558 Rock Oak Rd., Walnut Creek, CA 94598. Notification of intent to participate must be received by the end of April. **WR**

all the goodies. Here's what you get: the power station, a wall charger, a two-ended lighter cord (for vehicle charging) and a power cable with various adapters. The Trionics unit provides 12V via a lighter plug on the front as well as 3, 6 or 9V out a side connector. The voltage is switchable from the front. There is also a meter to indicate voltage status. Two screw-on terminals under a back cover allow quick attachment of 12V wires.

I wasn't sure when I read the ad, but I really liked the variable output. My personal computer, personal tape player and scanner used 3, 6 or 9V and worked very well—something I hadn't thought of using with this power station. There was no carrying strap and I still don't like using lighter plugs. I made up some cables that hook to the screw terminals and that was a pretty easy task—I didn't have to open it up and drill holes like with the Power Products unit.

The ideal unit

If I could get Trionics and Power Products together, I'd take a Trionics unit, put the charger cord in the handle, add radio holder clips to the side, add a couple of power jacks and a carrying strap. Of the units I've seen, Trionics is

my personal favorite.

Another late entry in emergency portable power would be CSC Power Systems. I got a flyer in the mail but have not contacted them. You can call them at 800/489-2614. They market a portable 17A unit for \$350 or a 7A unit for \$283. That's about \$20 an amp-hour for the 17A unit.

Trionics was kind enough to loan me a unit to disassemble and evaluate. (I liked it so much I sent them a check.) By the way, none of the manufacturers would provide a schematic (Trionics said one might be available soon), so if you need repair, it's back to the factory. All had a good warranty for the first year and all had a fused output. I enjoyed talking with Carl at Trionics because he is an Amateur Radio operator and talks the same language. I'm sure there are Amateur Radio folks at the other companies, it's just I couldn't get through to any when I called with questions.

The final topic

I'm out of space for this month, so I can't get into any sex topics; I can tell you're all disappointed. Let me relay a bumper sticker: "Amateur Radio operators do it with frequency." And with that, 73 from Salt Lake City! **WR**

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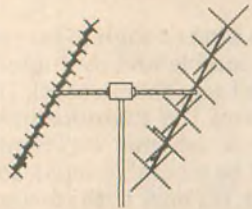
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Amateur Satellites



**K7YHA
Rich Arland**

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This month we are going to be starting our series on how to pursue a low-cost approach to the high-tech hobby of amateur satellite communications. Our initial emphasis will be placed upon successful reception of one of the many low earth orbit (LEO) satellites. This will be followed next month by attempting to work through the transponder on this LEO bird.

In the early stages of the Amateur Radio satellite program all the spaceframe hardware was classified as LEO. These early satellites were called Phase-1 and Phase-2 birds. The Phase-1 satellites were our first attempts to orbit an amateur transmitter which sent messages like "HI" or simple telemetry data. These first amateur satellites provided a test bed for the follow-up Phase-2 spacecraft.

For the most part, Phase-2 satellites were the first attempts to fly an orbital transponder (much like an extremely wide-banded repeater). Today there are quite a few LEO birds available to the satellite operator (SATOP). They range from extremely simple mode A (2M uplink and 10M downlink) transponders that allow CW and SSB contacts to the highly complex Microsat birds featuring mode JD transponders (2M uplink and 70cm downlink) in a digital store-and-forward format including charge-coupled device cameras that can (with proper software) yield some outstanding pictures of the earth.

With this wide range of LEO satellites to choose from, often the new SATOP is confused as to which satellite and which mode to try first. Throughout our series on basic SATCOM we will apply the KISS principal ("Keep it simple, stupid!").

The KISS principal dictates that we look around the shack to find out what equipment is currently on hand (so we don't have to spend any money) and whether we can employ it to hear the

bird. Most active radio amateurs have an HF receiver. Mode A (2M up/10M down) and mode K (15M up/10M down) are perfect candidates for a first-time try at receiving a spacecraft beacon since both downlinks appear on 10M. The RS-10/11 beacon is on 29.357 MHz and the RS-12/13 beacon is on 29.408 MHz.

What kind of HF receiver is needed? As long as it has reasonable sensitivity on 10M (in the neighborhood of .25 microvolts) and covers 29.4-29.6 MHz, then you possess the necessary receiving equipment to hear RS-10/11 and RS-12/13 LEO satellites. Digital readout is nice but not necessary. Narrow IF filters (250/500 Hz) are more of a hinderance than a help initially (more on this later).

Antennas? Almost anything from a hunk of wire to a rotatable 10M Yagi will work. I have found that a CB vertical antenna (cut for the high end of 10M) works very well and is relatively cheap (check your local swapmeets and swap papers for some real deals in used CB gear). In addition, such a vertical has the advantage of not tying up the main HF station antenna. The overall profile of the antenna is low and the environmental impact is also fairly low. The vertical can be mounted close to the ground (height is not all that important with LEO satellites) to further reduce any adverse environmental impact. A simple 10M dipole (check the *ARRL Antenna Book* for details) will also work well.

Downlink signals from the RS-series of LEO birds are quite loud so exotic antenna systems are not required. There is definitely no need to go out and purchase an additional antenna just for satellite work. Remember the KISS principal: Use what you already have or can procure at low cost.

Now that we have covered the necessary receiving equipment, all that remains is for us to listen for the

bird. This can be accomplished in one of two ways.

#1. Dumb idea: Turn on the receiver and sit beside the receiver for at least 12 hours and wait (patiently) for the bird to fly by while listening for the downlink beacon.

#2. Smart idea: Fire up a satellite tracking program on your shack computer and obtain the times of the next good passes that you will be available to monitor. Tune up the receiver on the downlink beacon and listen at the appointed time.

That's all there is to it, sports fan! Unless you live in a cave or haven't been active in many years, you probably have, at your disposal, all the gear necessary to hear several of the LEO satellites currently in orbit.

What will you hear? That depends. If you are listening to the 10M beacon on RS-10/11 or RS-12/13 you will hear the CW telemetry (sent at about 20 wpm) from the on-board computer. This telemetry tells the ground command stations the real-time status of the satellite systems. As you tune above the 10M beacon you will hear the downlink transponder passband. Here you may find CW and SSB intermixed with other signals that may not be coming through the transponder owing to enhanced 10M propagation. Yes, you can hear DX signals in the 10M satellite subband, depending on propagation conditions. This gets even more confusing if you are listening to the 10M downlink passband of RS-12/13, while in mode K, which uplinks on 15M (21.210 - 21.250 MHz) smack in the middle of the DX portion of the band! Mode A transponder frequencies for these two RS-series birds are shown in the table.

QSOs between radio amateurs using the mode A or mode K transponder are short due to the rapid pass of the bird. On a direct overhead pass you will find about 17 or 18 minutes of excess time between acquisition signal (AOS) and loss of signal (LOS). This means that the contacts must be fast so more than one QSO can be made per pass.

A typical contact will consist of station sending "CQ RS CQ RS I K7YHA K7YHA K." Rick in Naticoke, Pennsylvania, hears me and replies: "K7YHA DE KA3QKI KN." I reply: "KA3QKI DE K7YHA T ES UR 559 559 EPA EPA OP RIC RICH KN." QKI comes back with "RR RICH ES UR 559 559 PA PA C RICK RICK 73 ES GL SK." The tire QSO takes just over one minute and I then resume calling "CQ RS."

Sideband contacts are the same basic format but must be tuned much more carefully owing to the mass

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Doppler shift on the downlink frequencies caused by the satellite's rapid movement across the sky. This Doppler shift is one of the main reasons that narrow IF filters are not for beginners. Once some experience is gained using LEO satellites, and the SATOP becomes familiar with his equipment, then narrow CW filters can be employed with good success.

Earlier I mentioned tracking programs. These are nifty little pieces of software (some of them not so little) that put the shack computer to work keeping track of the various times of day that certain satellites will be within range of your station. AMSAT-NA has a great selection of tracking programs for IBM/PCs and clones, Macintosh, Atari, Commodore and Tandy's CoCo series of computers and the HP-41 calculator. These programs take the drudgery out of the satellite communications game by using readily available Keplerian data elements (appearing on most packet BBSs) to calculate the times and length of passes for selected satellites. This assures you of being able to have access to a given satellite at a pre-arranged time.

R. Myers Communications (P.O. Box 17108, Fountain Hills, AZ,

Mode A transponder frequencies (MHz)

	RS-10	RS-11	RS-12	RS-13
Uplink	145.860-900	145.910-950	145.910-950	145.960-146.000
Downlink	29.360-400	29.410-450	29.410-450	29.460-29.500
Beacons	29.357	29.453	29.408	29.458

85269-7108) is the second source for satellite tracking programs. Bob Myers, W1XT, not only sells two of the best satellite tracking programs available for the IBM/PC (and clones), he also publishes two outstanding periodicals for the satellite communicator.

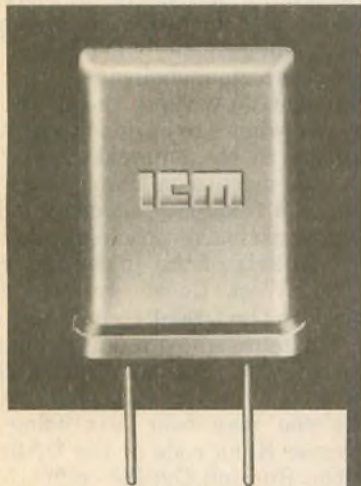
I have been using *RealTrack*, by Mike Owen, W9IP, for the last several months and find it to be a fantastic sat-track program. It's a bit costly at \$65 a copy but well worth the money. The second program that is worth mentioning is *TrakSat*. This is a low-cost alternative to *RealTrack* and gives the basic information for accessing any one of several hundred amateur and non-amateur satellites. It is available from R. Myers Communications at \$5 a copy.

Bob's two newsletters are a great source of late breaking satellite communications information and should be a "must read" for anyone in-

terested in space communications. First is the *Oscar Satellite Report*, a biweekly publication that presents important topics for satellite operators. The *OSR* has the latest information on problems, schedule changes, news and views of the amateur satellite community. Price for a one-year subscription is \$29.

Second is a monthly publication called *Satellite Operator* which is designed to compliment the *Oscar Satellite Report* while providing more in-depth information. There is no duplication of material between the *OSR* and the *Satellite Operator*. Price of a one-year subscription is \$27. For further information write or call R. Myers Communications at 602/837-6492.

That's a wrap for this month, gang. Next month's column will deal with actually making a contact on RS-12/13. Stay tuned for more good stuff! 73, Rich Arland, K7YHA. WR



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There's little doubt in my mind that you've gotten the message by now: "Solar minimum is coming!" You can see it in all the various DX bulletins, magazines and DX BBSs. And, of course, there are strategies developing to keep the pursuit of DX in working condition. Aside from constant vigilance, not letting an "opening" on the higher bands go unnoticed, there's more and more activity on the lower bands, say 30 and 40M. Even long path contacts, my favorite mode, are showing up there in good number; that pleases me to no end.

But I am concerned; as the MUFs start their inevitable decline, more folks are being pressed into fewer and fewer kHz and that makes for more and more stress. DXers don't need that; their lives are arduous enough. And the same is true for the rest of the amateur community. But what about the "uninvited guests," the intruders who invade our precious territory, taking up part of our spectrum?

Remember the Woodpecker? He's gone now, thank goodness, but in his hey-day, with his 10 pps pulsed keying

of megawatts of RF, he showed no mercy to anyone. I've heard him QRM our own WWV, to say nothing of "Radio Moscow." That was an operation that respected nothing, even complaints from dozens of countries which were submitted through normal diplomatic channels. In electromagnetic terms, he made a rogue elephant look like something right out of Ringling Brothers Circus!

I must confess I was a bit sloppy in making mention of "our precious territory" when I really should have been more precise, using "our frequency allocation." As a matter of fact, that's worth a digression as there are allocations and *allocations*, shared and exclusive, around the world; we should look at the distinctions between them.

When it comes to exclusive allocations in the HF part of the spectrum, for Amateur Radio there's the 10, 12, 15, 17 and 20M bands. True, countries have their own band plans for each of those portions of the spectrum; you can look up ours in the *FCC Rule Book* published by the ARRL. But solar activity is on the decline and those higher bands are going to drop from the DX scene, one by one, leaving behind thoughts of their exclusivity with little but 30 and 40M left for DXing.

When it comes to 30M, we got that as a result of the WARC '79 meeting but the Amateur Service is secondary on the band. That means that fixed stations are primary on the band and we must avoid any form of interference with them. It's as simple as that.

As for 40M, we have the first 100 kHz on an exclusive basis around the world by international agreement, but there are other countries, Iraq and a host of African countries, that "claim" the first 50 kHz for their fixed service on a primary basis. That's "DX country" for CW operators so their attitude gives one pause.

SSB operators on 40M fare worse, the frequency range from 7.100 MHz to 7.300 MHz being allocated to broadcasting all over the world (except in ITU Region 2 which includes North, Central and South Americas). I must say that frequency allocation caught my attention as soon as I came back on the air after a 40-year hiatus. Earlier, we had the whole 40M band just for CW and it was a joy to behold. True, we congregated around the bottom end of the band but there was room, and plenty of it.

But the first time I tuned across the band in '81, I was appalled to hear all those broadcast stations in the early morning hours, just like pickets on a fence, spaced 5 kHz apart. That's when the DX should have been coming in, not every little island, province or whatever out in the Pacific and the Orient! I didn't like it but a treaty is a treaty.

So let's move on and ask what about those signals that appear on our bands, whether we have primary or secondary status, who are "intruders" in the sense that they violate international agreements? Even in the best of times, they shouldn't be ignored and even less so now that the spectrum is becoming more crowded. Whether they're small military units, say at the battalion level in an army, or a larger organization, perhaps in the maritime services, any operation in defiance of treaty obligations should not go without a formal challenge.

But how do we spot them, who are they and what's to be done about their intrusion in the amateur bands? To make the discussion simple, let's just focus on a frequency allocation where we have exclusive privileges, say the first 100 kHz of the 40M band. Here on the West Coast, we are close enough to the Orient to hear and contact amateurs who often use their own style of CW, not our International Morse code, in contacting each other. Thus you may hear JAs using the Japanese Kana code or the UA0s using the Russian Cyrillic code. If you look on page 3 of Chapter 19 in the *ARRL Handbook* you'll see what I'm talking about.

Those operators are often skilled enough to slip from one form of code to another as their QSOs change. My favorite one in that category was Serge, RA0FC; he could go from CW in English at 25 wpm right over to Russian at the same speed or better with a new QSO. That's a legitimate situation, call signs given frequently and the type that you could recognize without too much study.

But then there's the case of seemingly endless CW in a strange code, with no replies, exchanges or even call

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signs. That suggests a one-way transmission or an "intruder" that's violating the spirit of the ITU by being in an amateur band. That's the sort of thing that should be watched, even entered in your log for future reference.

And the same can be true of voice transmissions, but it's harder to really identify their origin as intruders unless you speak or understand the language yourself. For example, if you've ever operated CW in the first 100 kHz of 40M, you know that from time to time the JAs operate SSB there, making themselves quite evident during their contests. Okay, that's their band plan for a portion of the radio spectrum allocated exclusively to the Amateur Service. But knowing some Japanese, when I hear Japanese operators on fishing boats out in the Pacific chatting back and forth on 14.020 MHz, they're "intruders" in our exclusive territory, no doubt about it!

Those are examples of what might be called "simple intruders," frequent enough to be annoying and perhaps due to some small unit or organization out in the field. But such simple modes are not used by larger units for wider ranges of communication; there, digital communication in one form or another comes into play. Thus, if you have some experience or knowledge of RTTY or AMTOR, you might notice RTTY or SITOR operations in strange parts of the amateur band.

One classic case was the Russian RTTY station that held down 21.032 MHz for years and years. And you might encounter strange AMTOR/SITOR signals down in the CW portion of the 40M bands; they even show up in "DX Alley" or on the QRPer's calling frequency from time to time.

Even for operators whose primary interest is CW or SSB, strange digital signals out of the ordinary frequency channels should raise the question of intruder at once. But to learn more about them, one needs a modern setup, say a computer complete with a versatile TNC and printer as well as a good measure of experience and patience, to sort out the "bad guys" from the "good guys."

So aside from overall operating style, whether endless transmissions or whatever, there are technical questions about the baud rate being used, the frequency shift between "mark" and "space" or the type of the text being transmitted. These can be examined and compared with standard amateur practices, as found in all the handbooks and references on RTTY/AMTOR. So when the frequency shifts are beyond the standard 170

Hz, you can start wondering whether it's another intruder.

While I wouldn't dignify it as "digital radio," there are jammers with repetitive signals on the bands also. Of course, the Woodpecker stood apart in jamming our frequencies but his real mission was as an over-the-horizon radar. Real jammers, using a variety of techniques, are trying to disrupt the transmissions of others.

If the "others" are operating in our exclusive amateur bands, they are intruders too. But the jammers try to overpower their intended victim and this is often done with a "big club," also known as carrier modulation using random noise. Since such transmissions are broad, usually covering several kilohertz, they can offend many amateurs at one time, more than their intended victim. And if the amateurs are in hot pursuit of some rare DX, their ire can reach significant proportions.

So what should we do? Retaliation in the form of radio signals doesn't make any sense, as they're probably not listening. As a matter of fact, that sort of thing is illegal here in the US. True, you are entitled to legitimate use of the frequency spectrum but any transmission of superfluous signals is forbidden by law. So hold on to your frequency if an intruder shows up but

don't go looking for trouble by deliberately trying to jam an intruder.

Instead, the better part of valor is to report them, carefully giving all the particulars of their transmissions—date, time and duration, frequency, type of emission, call sign (if available) and any other descriptive information that would enable another person to find the same signal on the band. All that should be sent promptly to the ARRL Headquarters and the IARU Region 2 monitoring system (WJ7X, P.O. Box 820, Chanhassen, MN 55317).

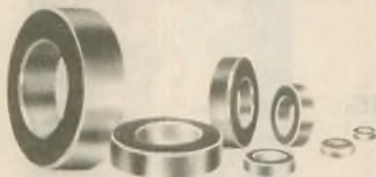
Actually, if you think about it, the range of radio transmissions that might be encountered with intruders is pretty broad, all the way from A1A (Morse telegraphy) to R7B (multi-channel voice frequency telegraphy). In between those limits are such familiar items as FAX, AM, FM, TV and radar. There are some interesting techniques involved.

If you think you'd like to know more about these problems or help protect our bands for DXing or whatever, you should contact the IARU monitoring service at the above address. For one thing, they have a fine handbook which not only gives the technical details of the types of intruder transmissions that are encountered but also the reporting system that is used. And reporting is the key to getting intruders off our precious territory.

We can't leave this topic without making mention of our own FCC. We think of them as our "watchdog agency," one dealing with problems of interference against US amateurs and others as well. Just read the FCC Highlights in *Worldradio* to see what I mean! But they also have a treaty branch and complaints about intruders come to a focus there. When a number of intruder reports reach them, even confirmed by an FCC monitoring station, they can carry the matter forward with the country in question or the ITU. But without reliable, detailed reports, nothing happens.

Again, from the top. Solar minimum is closing in upon us. Now, if you think about it, the propagation of radio signals, amateur and intruder, is being squeezed into fewer and fewer kHz. The luxury of ignoring or tolerating those intruders can't be justified any longer so raise your level of sensitivity and technical competence and do what you can, "for the good of the order." You'll feel better for it. WR

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—Rich Lawton, N6BB

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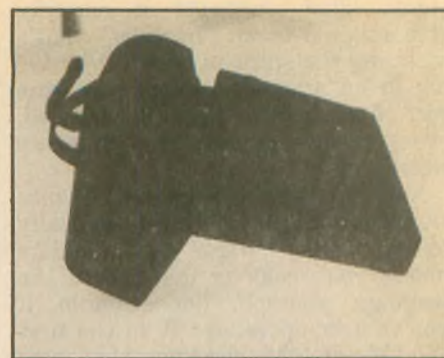
My wife, Nita, and I are never quite certain which car we'll take on our travels until we're packed and the accumulation of luggage is stacked in the foyer. Sometimes we'll take "my" little car or sometimes "her" big car.

Having cut my ham teeth on HF DX a few years ago with the enthusiastic help and encouragement of Burton Willner, W6ITB, my Elmer—with little exposure to 2M operation—I finally purchased a Kenwood TH-225A hand-held several months ago. The hand-held came to be one of the things that got stacked in the foyer, packed in the car and never used until we reached our destination.

I decided to try to get better mileage out of this little rig by attempting to

mount it in the car. I reasoned that I could enjoy the chatter on the Orange Park Amateur Radio Club's WB4CGD repeater, under the trusteeship of Larry Filzen, while traveling around town, and perhaps work a few out-of-town repeaters while on the road. The question was, in which car should it be mounted? The decision was, "Both!" And so the problem of "how" became the subject of quite a bit of interstate driving/pondering.

A "pocket sized, plug-in" concept came to mind as I searched around the dashboard and decided the best place to put a hand-held would be just below the dash-mounted AM/FM radio. There, right below the radio, is a sturdy little plastic pocket provided for the convenience of carrying cassette tapes,



Pocket sized plug-in mount

the garage door opener, sunglasses and the like. All I had to do was determine the inside dimensions of the pocket and design a plug to fit into it. Once I had the plug design firmed, I had only to create a little shelf on the plug on which to place the hand-held. The materials would be 3/4 in. thick pine and 1/4 in. plywood from the scrap barrel.

The pocket sized, plug-in mount seemed ideal. It would allow me to use the mount in either of our cars, since they have identical dashboards, with the simple transfer of a magnetic mounted antenna from one to the

Bureau

(continued from page 18)

You will experience some differences in successful bureau QSLing according to the country worked. For example, JAs, DLs, and Is are all excellent, and you will likely even get unsolicited cards from them; but some of the other countries are another story.

Contest season affords an excellent opportunity to generate a high volume of QSL traffic, and the cards are necessary if you would like to earn operating awards (wallpaper). Patience is a key in the process, however. Not only does the card proceed from you to the ARRL to the foreign bureau to the operator, where it faces an uncertain attention, it must also retrace that route. That consideration makes the entire bureau QSLing process seem highly efficient when viewing the results.

One other note: frequently a DX CW station will send "QSL-L." It means that the station will QSL only upon receipt of your card and will not initiate confirmation; you have to send yours first.

Got a couple of years? Then, by all means QSL via the bureau. Eventually you are going to get nearly two thirds of your QSOs confirmed. And don't forget to thank the people at your bureau for their volunteer efforts.

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other. When parking in questionable areas I could quickly disconnect the power cord and the antenna coax, slip the mount and radio out of the pocket and tuck them into the car trunk for safe keeping.

Figure 1 depicts the finished mount less the hand-held. The horizontal and vertical tapers on the plug were dictated by the internal dimensions of the pocket. A step on the face of the shelf provides support for the hand-held's battery pack and compensates for the belt hook protruding from the rear of the hand-held.

I cemented Velcro, fuzzy side out, to an angle bracket from my junk box and attached it to the underside of the shelf. This provides a convenient place for me to store a speaker/mike by clipping it onto the bracket using its lapel/pocket clip. The strap over the shelf is a piece of Velcro, fuzzy side in, which restrains the hand-held and mates with a piece of toothed Velcro under it. The entire mount was spray painted dull black to match the dashboard trim in both cars. Self-stick felt pads cushion the plug inside the pocket and the hand-held on the shelf.

Figure 2 depicts the TH-225A strapped onto the shelf and connected for operation. Power is provided by a



Your HT will mount nicely in the console

Kenwood PG-3E filtered cigarette lighter cord plugged into the dash directly under the pocket. An MFJ-287 mini-speaker/mike allows either the driver or passenger to operate the rig. A coax cable runs under the floor mats to a Jetstream JT002BN quarter-wave

magnet-mounted stainless steel whip on the trunk lid.

Now I've got more pondering to do—where am I going to keep the cassette tapes, the garage door opener and the sunglasses? Nita's purse, perhaps? WR

What they really mean

Reading technical articles can be amusing if you learn to read between the lines. Here are comparisons of what authors say and what they actually mean:

What they say: A high transient thermal effect ... **What they mean:** We burnt our fingers on the 2N3055.

What they say: after many experiments, we found a solution ... **What they mean:** We fiddled with it a long time and finally got it to work.

What they say: We ran transient tests ... **What they mean:** The fuse blew every time we turned it on.

What they say: You can improve this method ... **What they mean:** Nothing we tried had a hope of working.

What they say: You can solve the equation numerically ... **What they mean:** We got eight answers that looked vaguely right.

What they say: The gain figure is suboptimal ... **What they mean:** It has no gain and the noise figure is 22dB.

What they say: We haven't optimized the amplifier's efficiency ... **What they mean:** It's giving 2W out for 10W in, and the output transistors are glowing red.

What they say: We thank Joe Smith

for his comments about our manuscript ... **What they mean:** Joe Smith completely rewrote the article at the last minute.

What they say: The authors want to thank Elizabeth Scott for her assistance ... **What they mean:** Ms. Scott finally got the circuit to work.

(The above was taken from the December 1987 issue of Radio Communication, the journal of the Radio Society of Great Britain. The idea came from FM News, the Central Scotland FM Group's newsletter and printed in Electronic Design News, March 31, 1988.)

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Worldwide DX CONTESTING



John Attaway K4IIF/ZF2JI

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Amateur Radio offers a niche for everyone, and eventually we each find that aspect of the hobby which gives us the most pleasure. In my case, I've tried it all over the past 34 years —everything from assembling kits, to traffic handling, ragchewing, a little VHF, a lot of DX writing and managing a major DX awards program. Finally, I found my fun to be in DX contesting, particularly in overseas operating during major DX contests.

DX contesting is the most competitive aspect of Amateur Radio. You compete with your peers, you compete with yourself and your own records, and, if you are good enough, you com-

pete with the best operators the world has to offer.

For some, DX contesting is a matter of continual preparation for one or two of the major DX contests which dominate the contester's year. These are selected from a group which includes the ARRL phone and CW contests which take place in February and March, and the CQ Worldwide phone and CW contests which fall in October and November respectively.

In addition, the CQ WPX SSB and CW contests in March and May have assumed major proportions in recent years, as has the IARU Radiosport Contest held each July. The top gun contesters continually hone their skills and build bigger antenna arrays to excel in these major events.

However, contests with US sponsors are not the only interesting challenges in the contester's world. The WAE Contest sponsored by DARC, the All-Asian Contest by JARL, the Scandinavian Activity Contest which rotates among the Scandinavian IARU Societies and the CQ-M Contest by the Central Radio Club in Moscow are only four more from a rich array of activities available to the Amateur Radio community.

Whereas the ARRL and CQ contests are well publicized by other organizations, the overseas contests are less well known, and one of the objectives of this column will be to provide you with news and results from these events which you might otherwise miss in your monthly reading.

Contesting from overseas

A "sub-niche" in the DX contester's

world, which has a host of avid followers, is contest operating from a rare or semi-rare country, frequently an island in the Caribbean or Pacific, where you may be the only active station from the country and literally a king for the weekend. This can be a real ego-thumper, but it also provides an important service to your fellow contesters in providing a multiplier which would otherwise not be available.

Also, it helps many DXers who jump into contests with the hope of working a new one. Although there have been many operations from Grand Cayman, and the island has several active resident amateurs, we are amazed at the number of cards which we receive after each ZF2JI operation which say, "Thanks for a new one," or, "Thanks for my first ZF on 160," etc. Another feature of this column will be to provide information and insight into the problems of operating from other countries, how to get a license, where to stay, and so on.

Interesting personalities

Some of the most interesting people we have encountered in Amateur Radio are dedicated contesters. In future issues we hope to profile a number of these outstanding amateurs.

DX contests for April

There are two noteworthy national contests in April.

3-4 April: Polish (SP) DX Contest

24-25 April: Helvetia (Swiss) Contest

These events are of particular importance to DXers working on their prefix counts and those who wish to qualify for the Helvetia Award by contacting the Swiss Cantons.

The Polish Contest is CW only. You will send a six-figure number made up of RST and a progressive serial number beginning 599001. The Polish station will respond with RST and a two-letter abbreviation for his province, i.e. 599PO.

The Swiss Contest is both CW and SSB. You will send RS(T) and serial number. For example, 59001 on SSB and 599001 on CW. Swiss stations will send an additional two-letter designation for their canton. Abbreviations for the 26 Swiss cantons are: AG, AI, AR, BE, BL, BS, FR, GE, GL, GR, JU, LU, NE, NW, OW, SG, SH, SO, SZ, TG, TI, UR, VD, VS, ZG, and ZH. If you work all 26 cantons you will be eligible for the famous Helvetia Award.

We hope you will find this column an interesting addition to *Worldradio*. I look forward to writing it and hope you will look forward to reading it. 73 John, K4IIF/ZF2JI.

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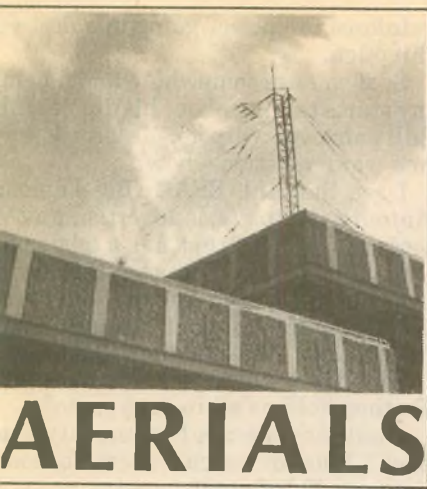
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AERIALS

LIL PADDLE

CQ magazine's World Wide SSB contest every October is indeed "the Fall Classic." It is the World Serious as iron bottoms throughout the globe stay glued to chairs for many hours on end.

Old crabapples (of every age level) nort and wheeze about contests but for he devotees, contests are an event!

Chronologically I fall in the old goat category, but I like contests! The exotica of the planet are audio images in my radio room.

Anguilla, St. Lucia, Belize, please QSL. Barbados, Venezuela, Finland, Japan. Men (and women) of different colors and religions all come together for this 48-hour ionospheric olympics.

Operating ability (oh, call it operating quality)—you'll hear it during a contest. There's 9K2ZZ. He's gracefully living out Kuwait. He works as smoothly as could be. He's fast. Yet he doesn't sound like a whirling dervish, as the less talented contesters do.

Indonesia, Thailand, Finland, Germany and France. Spain and El Salvador. Italy and China. I ping-pong around the world.

Oh, sure, the critics say, "What's the big deal, 5-9 and some number." But this is pure, sheer fun! The sweetest music is hearing your call come back to you . . . from Uruguay.

The phonetics have a ring to them. Victor-Papa, Charlie-Echo, Lima-Uniform. Doesn't Sierra-Mike sing?

I actually feel sorry for amateurs who don't partake. Their eyes (and ears) are

closed to this international bumper-car game.

Slide in, dart out. Cayman and an Englishman. All too soon, it's over. The discharging of all that frenetic energy comes to a screeching halt. Another whole year will have to go by until the fray resumes. Next October, the same knights will again joust.

KURT N. STERBA

12 December 1992. ARRL 10M Contest. I'm going to make a thrifty effort. Only 100W and for an antenna . . . a 7 ft. tall, 10M monobander Ham Stick mobile antenna from the Lakeview Co. (Anderson, SC). No, not way up on some tower. This is, using Lakeview's Tri-Magnetic Mount, going right on the roof of an automobile. (By the way, both units were purchased from a dealer. No freebies!)

The antenna is \$17.95 and the mag-mount is \$35.95. And that is some mag-mount! Just get it near the roof and BAM! They claim 400 lbs. of holding power and I believe it!

I've invested a gigantic \$54 in this antenna system.

You can pump 1000W into this rugged beast, but my power will be a more modest 100W. With an automobile roof for the groundplane I see not a flicker of SWR.

Twenty-five contacts in 50 minutes. Remember, this is not 5L up 55 feet and a kilowatt. I'm running a paper log and dupe sheet and answering the stations calling CQ. I'm getting DX stations on my first call, and I'm getting quick answers from really weak ones.

I'm a casual tester these days, but while reading a book I got eight contacts in 15 minutes. I had what seemed like a pipeline to Argentina. Then on one occasion I called CQ and worked eight stations in seven minutes. Frankly, I find that boring. I prefer to move up and down the band, fighting all the way.

I did a five-in-five that way. Then I

went to lunch. I used to eat bologna sandwiches but I've learned that such made me mean and nasty. Now I have some of Lil's watercress and parsley.

I made three contacts in two minutes once. All told I got almost 300 contacts. Would have done better if I got up earlier, but with this little Lakeview antenna I did get Worked All Continents.

In response to my book (completely sold out—thank you everyone—a second book, *Aerials II*, is in the works, as well as a second edition of the first) many wrote in asking about the often mentioned Budwig connector. Such are available from Budwig Mfg., P.O. Box 829, Ramona, CA 92055-0829. Price (includes shipping) is \$6.50 each. Amateurs residing in the earthquake state are asked to include appropriate sales tax.

In the February issue of this esteemed journal (page 14) the good doctor John Dillon, KH6MFT, asked me to comment about his unique feed system.

It is indeed an excellent one, which entails running one piece of coax to the quarter-wave on the left side of the dipole and another piece of coax to the quarter-wave on the right. The center conductors of each coax go to the respective halves of the dipole. Shields are bonded together at the top and the bottom. In the shack, the center conductor of each length of coax goes to the

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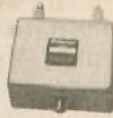
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two individual balanced line posts on the tuner. The common shields go to ground. This will pick up far, far less noise than the usual one-coax-to-the-dipole configuration. Tune away to your heart's content on any band.

Could we take one of the hammy bits of folklore and once and for all just bury it?

I'm talking about that infernal "coax" antenna. Recently an article on such was sent to the *Worldradio* office and then forwarded to me. It, again, had that humbug claim of 3dB gain over a dipole.

Please! Before anyone continues to make that noxious claim just ask yourself (or anyone else), *how?* How does this dipole end up with twice the radiated power of any other dipole? Where is this energy coming from? And/or, where is it going to?

There is only one way for an antenna to have gain (in some given direction) and that is to rob the power from some other direction. The less that goes off into unwanted directions, the more that's available to be directed into the desired direction.

This is accomplished only by directors, reflectors or stacking. And, yes, parabolas, corner horns, are reflectors.

Thus, you see that the "coax" antenna (a dipole) has no structure there to scoop up enough from any direction and

reinforce the power going in a desired direction.

So if you are somewhere and a hammy starts talking about his dipole with 3dB gain over a dipole, please ask that one-word question—how?

I see that the BFAC (Big Famous Antenna Company) is advertising a 2M vertical (16.5 ft.) that has a (claimed) 9dB gain. Yes, we note that they don't even put dBi or dBd. Anyway, one wavelength at 2M is about 6.5 feet. That divides into 16.5 feet about 2.5 times.

Nine dB (of whatever kind) from that? Do they hold us all in such scorn?

Would anyone care to comment about such? Should we call them "balloon antennas"? Inflated!

I got a real laugh from a review in the January issue of a hammy mag. In talking about another 9dB antenna (2M), this one only six feet in length, it said "unbelievable gain."

Yes, I certainly agree with them there. Funny though, I don't think they did it on purpose.

I have decided upon a new definition for dBi, which has meant dB gain over an isotropic antenna. Such is an antenna that you can't see, hear or touch. It doesn't exist. So from now on, whenever you see dBi in any manufacturer's data sheet, just insert "idiotic" for the "i" after dB.

The "Bravo" for the year goes to Martin F. Jue, K5FLU, for coming out with the antenna resistance bridge. Real antenna people should offer great thanks to the MFJ Co.

A lot of great stuff will be coming your way here in the next few months.

(Kurt N. Sterba goes by his Mar. Twain because, as is well known now, he is a best-selling author. This way he avoids panhandling DXers coming up to him, "Got any spare thousand dollar bills I can have for a new tower?"

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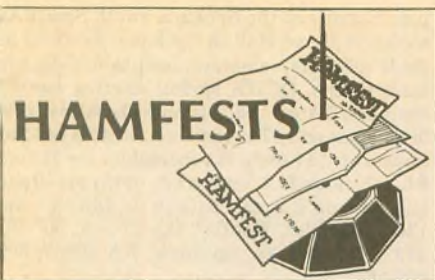
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California

THE KINGS ARC is holding a Hams and Hackers Swapmeet and T-hunt on 27 March from 8 a.m. to 3 p.m. at the Hanford Fraternal Hall in Hanford. Features include electronic items, computers, ham gear, door prizes, tri-tip BBQ, refreshments, T-hunt and free RV parking. Admission free for buyers, \$5 for sellers. Talk-in on 145.11, 147.33 (PL100), 224.82 (PL100), 441.900 (PL88.5). Contact Scott, KC6HVE, Kings ARC, P.O. Box 548, Armona, CA 93202; 209/582-3513.

THE LIVERMORE ARC is sponsoring a monthly swapmeet on 4 April and the first Sunday of every month from 7 a.m. to 12 p.m., rain or shine, at Las Positas College. Features include covered spaces at no extra cost in event of rain, refreshments and free parking. Admission is free. Vendor spaces are \$10 per space. Talk-in on 147.045(+) from the west and 145.350 (-100 Hz) from the east. Contact Noel Anklam, KC6QZK, at 510/447-3857 eves or leave message days at 510/783-2803.

A flea market will be held 10 April and the second Saturday of every month from 7-11 a.m. at Foothill College in Los Altos Hills. Features include refreshments and VE exams. Parking is \$2, bring quarters. Admission is free. Two parking spaces are \$10 for sellers. Talk-in on 2M for the flea market and 145.270(-) for the VE exams. For flea market info, call 408/734-4453 24-hr. For VE exam info, call 408/255-9000 24-hr.

Colorado

THE LONGMONT ARC is holding a hamfest on 4 April from 8 a.m. to 3 p.m. at the Boulder County Fairgrounds. Features include free parking, commercial exhibitors, refreshments, campfires, RV hookups, and VE exams at 1 p.m. Admission is \$3. Tables are \$7 (admission not included). Talk-in on 147.27/87, 146.52. For exam info, call 303/499-1106 eves. For table info, send SASE to Randy Stevens, N0NMD, 280 Cypress Dr., Boulder, CO 80303; 303/499-1106.

Georgia

The Central Georgia National Hamfest will be held on 3 April from 9 a.m. to 5 p.m. at the Georgia National Fair in Perry. Features include free parking, ham dealers, arts and crafts and VE exams. Admission is \$5 at the gate, under 12 free. Exhibit spaces are 10X10 for \$10, including one 8 ft. table and two chairs. Contact the Central Georgia National Hamfest, 1412A Russell Pkwy., Ste. 210, Warner Robins, GA 31088.

Illinois

THE MOULTRIE ARK is holding their 32nd annual hamfest on 18 April at the Moultrie County 4-H Fairgrounds five miles east of Sul-

ivan. Features include four large, roofed, open-air barns and VE exams from 9 a.m. to 12 p.m., pre-registration only. Admission is \$4 for those over the age of 14. Tables are \$8 and flea market setups are free. Talk-in on 146.055/146.655 and 449.275/444.275. Contact Dave Duggins, N9MPM, MARK, P.O. Box 91, Lovington, IL 61937; 217/234-3283.

Indiana

THE COLUMBUS ARC is holding a hamfest on 3 April from 8 a.m. to 2 p.m. at the Bartholomew County 4-H Fairgrounds Women's Building in Columbus. Admission is \$3. Tables (8 ft.) are \$6. Vendor set-up times are 2 April from 6-10 p.m. and 3 April from 6 a.m. Talk-in on 146.790/146.190. Contact Marion Winterberg, WD9HTN, 11941 W. Sawmill Rd., Columbus, IN 47201; 812/342-4670.

Kentucky

THE KENTUCKY COLONELS ARC is holding their hamfest/computerfest on 17 April from 7 a.m. to 2 p.m. at the National Guard Armory in Bowling Green. Free coffee. Admission is \$4. Tables are \$5 each. Talk-in on 146.25/85 repeater. Contact Kentucky Colonels ARC, P.O. Box 9781, Bowling Green, KY 42102; 502/777-3681.

Massachusetts

THE MIT ELECTRONICS RESEARCH SOCIETY, MIT RADIO SOCIETY and the HARVARD WIRELESS CLUB will be holding a flea market on 18 April and the third Sunday of each month through October from 9 a.m. to 2 p.m. at Albany and Main streets in Cambridge. Features include covered tailgate area and free off-street parking for 1,000 buyers. Admission is \$2. Sellers, \$10 per space at the gate, \$8 in advance. Vendor set-up time is 7 a.m. Talk-in on 146.52 and 449.725/444.725(pl 2A) W1XM repeater. Contact W1GSL, P.O. Box 82 MIT BR., Cambridge, MA 02139; 617/253-3776.

THE WAREHAM ARC is holding a hamfest on 18 April from 10 a.m. to 2 p.m. in Wareham. Features include refreshments and free parking. Admission is \$1. Tables are \$7 and tailgaters are \$5. Vendor set-up time is 8 a.m. Talk-in on 147.915/315 repeater and 146.52 simplex. Send SASE for flyer to Barry Kennedy, N1EZH, 24 Bungalow Lane, Buzzards Bay, MA 02532.

Michigan

THE SOUTH EASTERN MICHIGAN ARA is holding their 35th annual Hamfest/Swap-N-Shop/Computer Show on 4 April from 8 a.m. to 2 p.m. at the Grosse Pointe North High School in Grosse Pointe Woods. Features include and ARRL forum and VE exams. Advance tickets and vendor passes are \$3. Tables are \$10 each in advance. Talk-in on 146.74 (-600). Contact Rose Ann Mears, NV8W, SEMARA, P.O. Box

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646, St. Clair Shores, MI 48080-0646; 313/881-3065.

Minnesota

THE LAKE REGION ARC is sponsoring their sixth annual ARRL affiliated hamfest on 10 April from 8 a.m. to 3 p.m. at the Otter Tail County Fairgrounds Hockey Arena in Fergus Falls. Features include an ARRL forum, packet meeting, state Army MARS meeting, camping areas, concession stand and VE exams. For more info, contact Keith McKay, N0FKF, Rt. 1 Box 46, Battle Lake, MN 56515; 218/826-6274.

THE ROCHESTER ARC is sponsoring the 16th Annual Rochester Area Hamfest and Computer and Electronics Show on 3 April at John Adams Junior High School in Rochester. Features include ham and computer dealers, flea market, speakers and programs, hamfest kitchen (rolls, sandwiches, beverages) and plenty of free parking. Admission is \$4 in advance and \$6 at the door, harmonics 12 and under free. Tables are \$8 in advance and \$10 at the door. Selling space is \$5, bring 6 ft. table. Talk-in on 146.82(-) and 224.82(-). Contact Rochester ARC, ATTN: N6VB, 6982 Indigo Ct. NW, Rochester, MN 55901; 507/280-7751.

Missouri

THE JOPLIN ARC will sponsor Hamfest '93 on 17 April from 8 a.m. to 3 p.m. at the John Q. Hammons Trade Center in Joplin. Features include vendors, prizes, drawings, flea market XYL prizes, contests and VE exams. Admission is \$5 or three for \$12.50 at the door, children under 12 free. Tables are \$10 first table, including admission, and \$5 each additional table. Talk-in on 147.210(+). Contact JARC, P.O. Box 2983, Joplin, MO 64803; 417/623-3610 days, or 417/782-5848 eves.

Nebraska

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nual auction on 18 April from 9:30 a.m. at the Millard Social Hall in Omaha. Admission is free. Buyer and seller registration begins at 7:30 a.m. Talk-in on 146.34/.94. Contact Ken Noel, AJ0A, 6730 S. 73rd St. Circle, Ralston, NE 68127; 402/592-2338 after 6 p.m.

New York

THE SUFFOLK COUNTY RADIO CLUB will hold its indoor hamfest on 18 April from 9 a.m. to 3 p.m. at the St. James Lutheran School in St. James. Features include free parking, handicap accessibility and VE exams. Admission is \$5, children under 12 free. Talk-in on 145.210/144.610. Contact Dr. Ralph Thorn, N2KEA, at 516/472-8348.

Ohio

THE SOUTHWEST OHIO CHAPTER of the QCWA will hold its annual banquet on 23 April from 6:30 at Neil's Heritage House in Dayton. Tickets are \$16 each, reservations required. QCWA membership is not a requirement to attend. For tickets, make check payable to Robert L. Dingle, Treasurer, Chapter 9 and mail to 1117 Big Hill Road, Kettering, OH 45429-1201.

Washington

THE INLAND EMPIRE HAMFEST and COMPUTER SHOW will take place 3-4 April from 9 a.m. to 5 p.m. Saturday and 9 a.m. to 1

p.m. Sunday at the Spokane Youth Sports Association Bingo Hall in Spokane. Features include speakers, seminars, swap tables, dealers factory reps, QCWA spring meeting and VE exams on 3 April. Admission for both days in \$10 in advance and \$7 at the door. Awards banquet tickets are \$11 each. Six-foot tables are \$10 and 8 ft. tables are \$12. Vendor set-up time is 10 a.m. to 5 p.m. on 2 April. Talk-in on 146.88(-) and 146.52 simplex. Contact Ike Brown, KF7PU 3537 E. Nebraska, Spokane, WA 99207; 509-489-2667.

Wisconsin

THE MADISON AREA REPEATER ASSOCIATION is holding its 21st annual Madison Swapfest on 4 April from 8 a.m. at the Dane County Exposition Center Forum Building in Madison. Features include new and used electronics gear from computers to communications equipment, commercial exhibitors, flea market and refreshments. Admission is \$4 in advance and \$5 at the door, children under 10 admitted free. Flea market tables \$10 each in advance, plus admission. Deadline for mail orders of admission tickets and tables reservations is 27 March. Flea market set-up time is 7 a.m. Special arrangements for early set-up are available for commercial exhibitors and purchasers of six or more flea market tables on 3 April after 7 p.m. Talk-in on 147.75/15. Contact MARA, P.O. Box 8890, Madison, WI 53708-8890 or call Jim Waldorf, KB9AQQ, at 608/249-7579.

Contests

Connecticut QSO Party

The Connecticut QSO Party, sponsored by the Candlewood Amateur Radio Association, will take place 17 April, 2000Z until 18 April, 2000Z, with a rest period between 0400 and 1200Z.

Operation: Phone and CW. Work stations once per band and mode, mobiles as they cross county lines. No repeater QSOs. Operations will include single operator, fixed and mobile, Novice, QRP (5W), multi/single and multi/multi classes plus Connecticut club competition. Connecticut stations may contact other Connecticut stations for QSO/multiplier credit.

Exchange: Connecticut stations exchange report and county; others exchange report and state/province/DXCC country.

Suggested frequencies: CW—40 kHz up from the lower band edges; Novices 25 kHz up from low end; phone—1.860, 3.915, 7.280, 14.280, 21.380, 28.380; VHF—50.150, 144.200, 146.580.

Scoring: Score one point per phone QSO and two points per CW QSO. QSOs with club station W1QI and ARRL HQ station W1AW count five points. Connecticut stations multiply QSO points by states/provinces/Connecticut counties worked (DX only one multiplier); others multiply by Connecticut counties worked.

Logs: Send entry and SASE for results by 31 May to CARA, P.O. Box 3441, Danbury, CT 06813-3441.

NWQRP Sprint

Sponsored by the NorthWest QRP Club, the Spring NWQRP Sprint will take place Saturday, 17 April, from 1700 to 2100 UTC.

Operation: The object of the Spring NWQRP Sprint is to contact as many QRP stations as possible within a three-hour period. Contacts on each band are considered as a new contact. Contacts with NWQRP members count five points. Non-NWQRP member must give power level used.

Exchange: Give RST, state and NWQRP number. Sample CQ: "CQ NWQRP test."

Multippliers: Multiply total score by five for 1W or less; multiply by three for 1-3W.

Awards will be given for the highest score in each call area, including the top score. Results will be published in the June '93 NWQ Newsletter.

Logs: Please send completed logs by 15 May 1993 to Bob Farnworth, WU7I Contest Editor, NWQRP Club, 682 131 Ave. SE, Bellevue, WA 98006. The NorthWest QRP Club also holds weekly nets: Mondays 0300 UTC on 10.12 MHz; and Saturdays 1550 UTC on 3.56 MHz.



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

Catalog of quartz crystals

A new catalog of quartz crystals and holders has just been published by JAN Crystals.

The illustrated eight-page booklet contains descriptions, specifications and prices on crystals for frequency control, microprocessors, data transmission, telemetry, and telecommunication voice. The handy catalog is available free by calling JAN Crystals at (800)JAN-XTAL.

JAN CRYSTALS is an independent manufacturer, providing custom crystal design, prototyping, and manufacturing services, in addition to maintaining an extensive inventory of semi-finished components.

MFJ-1214 MultiMode

MFJ Enterprises, Inc. proudly announces the new and inexpensive MFJ-1214 MultiMode communications package for only \$149.95.



The new MFJ-1214 answers numerous requests for a multimode computer interface package especially for HF enthusiasts. This all-in-one package includes the high-performance MFJ-1214 MultiMode computer interface, AC power supply, software, computer and radio cables (add mike plug to fit your transceiver), power supply, extensive manual, and Jump-Start™ guide. The MFJ-1214 package plugs together in a flash and lets you transmit and receive RTTY, ASCII, CW, FAX and WeFAX.

Three versions of the MFJ-1214 are produced for various computers. The MFJ-1214PC works with IBM compatibles with VGA, EGA or Hercules, plus 512K RAM and 8 MHz or faster speed. MFJ-1214AM works with Amiga. MFJ-1214ST works with Atari ST. Graphics depends on system used.

The MFJ-1214 interface is tops in performance and includes true DCD circuitry with front panel LED for easy signal tuning. The software program is also menu driven and easy to use. On RTTY, the system gives you all standard speeds and shifts. An on-screen tuning indicator is included plus you get a full text editor that saves and transmits text files. Working CW is terrific with the MFJ-1214. In addition to automatic speed tracking and on-frequency tuning indicator it has type-ahead buffer for transmitting, adjustable sidetone, transmit tune, and more. You can copy high resolution weather pictures directly on 16.410 MHz, zoom in on three or four state areas, and copy AP news photos on 20.738 MHz (sample frequencies: many more available!) This complete MFJ-1214 package puts you on top of today's hottest digital modes for HF, and it comes with MFJ's one-full-year No Matter What™ guarantee.

For more information or to order, contact any MFJ dealer or MFJ Enterprises, Inc., P.O. Box 494, Mississippi State, MS 39762; 601/323-5869; FAX 601/323-6551; or order toll-free at 800/647-1800.

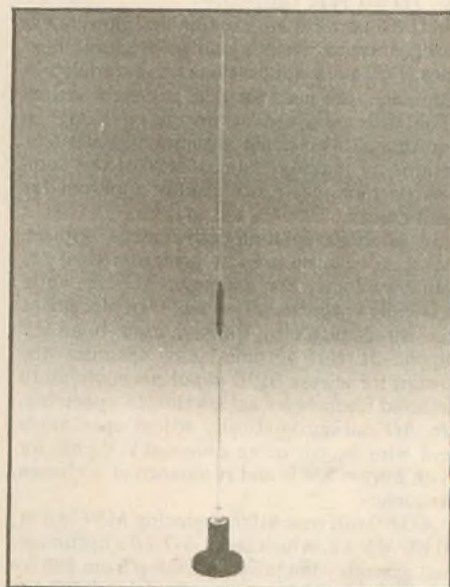
Cushcraft magmount

Cushcraft Corporation has introduced a high gain, dualband mobile magnetic-mount antenna for 2M and 70cm. The antenna is designed to complement today's dualband mobile rigs, which have become one of the hottest sellers in mobile Amateur Radio.

This compact antenna is only 36½ inches (.95 meters) high yet offers 3.7dB gain on 2M and 6dB gain on 70cm. The antenna's low angle of radiation keeps the signal on the horizon and assures maximum groundwave coverage.

The CS270M comes complete with a 90-pound pull magnetic mount, low-loss Ultra-link cable and a standard PL259 connector.

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mount eliminates seizing, common with other mounts using dissimilar metals, thus making the whip easy to remove for car washes or garage entry.

The PC board matching network is extremely stable and is ultrasonically welded in a weatherproof ABS housing assuring a durable/rugged long life.

For further information, contact your Amateur Radio dealer or Cushcraft, P.O. Box 4680, Manchester, NH 03108; 603/627-7877.

AO 5.0 Antenna Optimizer

Brian Beezley, K6STI, announces the *AO 5.0 Antenna Optimizer*, a new program for IBM PC compatible computers. *AO* features automatic optimization of arbitrary-geometry antenna designs. *AO 5.0* combines the fast, high-accuracy Mininec algorithm from the *MNC 4.5 Antenna Optimizer* program with enhanced optimizing techniques from the *YO 5.0 Yagi Optimizer*.

AO 5.0 permits an amateur to improve existing antenna designs and to originate new ones. For most applications, *AO* completely eliminates the need for trial-and-error antenna modeling and tedious design tweaking. In addition, *AO* gives the antenna designer new insight by making the contours of the complex performance space readily apparent for each design.

In addition to high-performance applications, *AO* can be used to design modest antenna systems. For example, *AO* can automatically optimize LC values, trap placement and wire length for a trapped, multi-band HF dipole. It can automatically optimize the design for lowest SWR simultaneously at 10 selected frequencies across the HF spectrum. Or, *AO* can automatically adjust apex angle and wire length of an inverted-V dipole for both lowest SWR and resonance at a chosen frequency.

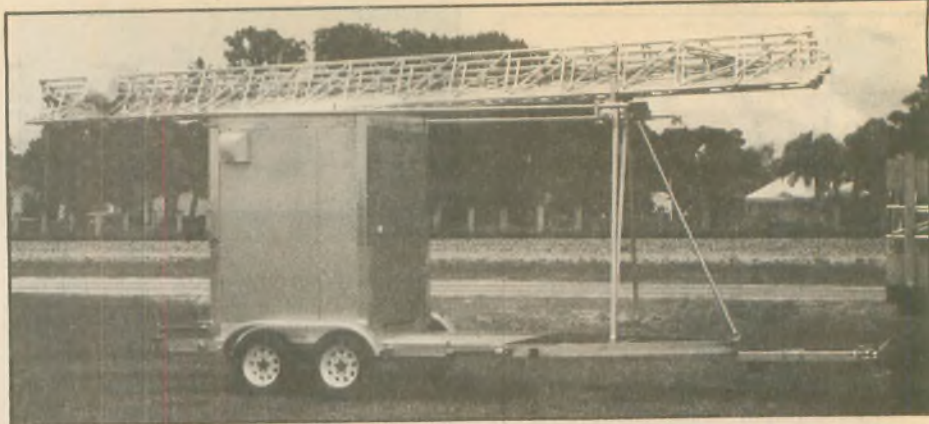
AO 5.0 will cost \$100, replacing *MNC 4.5* at \$110. *MN 4.5*, which lacks *AO 5.0*'s optimizer and assembly language, will drop from \$85 to \$50. In the spirit of more-for-less, *YOC 5.0* will drop from \$130 to \$100, and *YO 5.0* from \$100 to \$75. *NEC/Yagis 1.0*, a design-verification tool and accuracy reference for Yagis, will remain \$50. The *MNH 4.5* huge-model option and *GUY 1.0* guy-wire modeler will remain \$25 each.

For further information contact Brian Beezley, K6STI, 507 1/2 Taylor, Vista, CA 92084; 619/945-9824, 7-6 p.m. PT.

Tesla Ham Net

The International Tesla Society, dedicated to advancing science and technology with emphasis on the contributions of Nikola Tesla, has established an Amateur Radio net on 20M. Discussion will cover the many facets and inventions of Nikola Tesla.

The net will be held on Saturdays, 1600 UTC on 14.290 MHz. Further information can be obtained from Mike Di Persio, KC2Q, P.O. Box 357, Bradley Beach, NJ 07720, or Steve Elswick at 800/397-0137. WR



Mobile tower

Aluma Tower Company, Inc. announces the addition of model #TM-51-35-S.

This newly developed trailer tower comes complete with a fully insulated shelter 4 x 6 x 6 feet. The shelter can be outfitted with your equipment and can be manned. It is also

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The unit shown in the picture is equipped with a T-1100 100 ft. aluminum crankup tower. For further information and pricing on your specific requirements, contact Aluma Tower Company at 407/567-3423 or write to Box 2806, Vero Beach, FL 32961-2806.

Daiwa power supply

The PS50T is the latest in Daiwa's series of power supplies. This 5A low-capacity power supply has a cigarette lighter plug and comes without a meter. This multi-purpose 12VDC power source is excellent for use with handheld transceivers and scanners. Proven quality with a name you can trust. The PS50T is 6 x 3 x 8 in., 6 lbs., 13.8V with 5.2A ICS current; 4.2A cont. current. List price is \$49.95.

For further information contact Electronic Distributors Corp., 325 Mill Street, Vienna, VA 22180; 703/938-8105; FAX 703/938-6911.

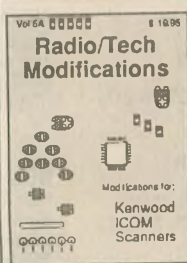


Correction

The address for DWM Enterprises (the Pill Bottle Antenna Tuner) should have appeared

in the February New Products as follows: DWM Enterprises, Shipping Dept. 103, 170 N. West Ave., Jackson, MI 49202. Telephone inquiries: 517/563-9022.

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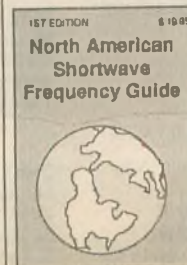
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VE exam schedules

As a service to our readers, Worldradio presents a feature listing those VE exams, times and locations which are sent to us. Please remember that our deadline for publication is three months in advance. For example, if your VE group is scheduling an exam for September, please have the information to us by mid June.

Worldradio, 2120 28th St., Sacramento, CA 95818.

Please mark the envelope "VE Exams."

List the location, any information examinees should have (advance registration, etc.) and the name and telephone number of a person to contact for further information.

p/r=pre-register

w/i=walk-in

Date	City	Contact	Notes	Date	City	Contact	Notes
Arizona				Massachusetts			
May 1	Tucson	Joe, K7OPX 602/886-7217	w/i only	May 3	Cambridge	Bob, N1KDA 617/593-1955	
May 29	Tucson	Micki 602/883-8305	p/r; w/i	Michigan			
Arkansas				May 8	Dearborn	Stan, K8SB 313/676-6248	
May 15	Mountain Home	Gerald, WM5W 501/430-5123	p/r	Missouri			
May 8	West Memphis	Gene, AB5BL 501/739-4029	w/i OK	May 28	Seneca	Les, AA0GY 417/781-4331 (d), or 417/776-8420 (e)	w/i OK
California				Nevada			
May 8	Adelanto	Arnie, NF6I 619/241-4732	w/i OK	May 15	Minden	W7QO 702/265-3430	w/i
May 16	Berkeley	Gary, N6YBD 510/530-0544	w/i only	May 8	Reno	Don, WS2Z 702/851-1176	w/i
May 22	Culver City	Walt, KM6MQ 714/373-6077	w/i only	New Jersey			
May 1	Cupertino	408/243-8349	w/i OK	May 15	Bayonne	Bob, N2IYY 201/435-5953	w/i OK
May 16	Eureka	707/826-0767	w/i OK	May 20	Bellmawr	WA2VQG 609/546-7710	w/i
May 29	Fairfield	Jerry, AA6NO 916/662-0801	w/i only	May 8	Cranford	24-hr hotline: 201/377-4790	
May 4	Fremont	KJ6EP 510/791-6818	w/i only	May 12	Fort Monmouth	MARS 908/532-5354	w/i
May 27	Long Beach	W6LRF 714/847-6370; N6LUH 310/592-1713	w/i OK	May 15	Pennington	AA2F 609/737-1723	p/r pref; w/i OK
May 1	Ontario	Harry, KM6LO 818/810-0442	w/i OK	New York			
May 15	Porterville	Pat, KG6WG 209/539-2429	w/i	May 19	Lancaster	Chuck, WD2AIK 716/937-3592	p/r only
May 8	Redding	Kenna, KR6M 916/243-6339		May 8	North Tonawanda	Vern, AA2AC 716/634-5276	p/r only
May 15	Redwood City	408/255-9000	w/i OK	May 2	Yonkers	AC2V 914/237-5589	w/i OK
May 29	Ridgecrest	Lloyd, WA6KZV 619/375-7245	w/i	North Carolina			
May 15	Sacramento	Lyle, AA6DJ 916/483-3293		May 16	Asheville	Hary, AA2AB 704/891-5481	w/i OK
May 8	San Jose	AA6IY and KG6XF 408/255-9000		May 15	Spruce Pine	David, KK4PW 704/675-9044	w/i OK
May 8	San Pedro	Elvin, N6DYZ 310/325-2965	p/r pref.;	North Carolina			
			w/i ltd.	May 9	Salisbury	Isabelle, AB4UX 704/284-2414	w/i OK
May 15	Stockton	Ed, N6XMA 209/952-5996	w/i only	Ohio			
May 8	Sunnyvale	408/255-9000 24-hr.	w/i only	May 1	Cincinnati	Herb, WA8PBW 513/891-7556	w/i OK
May 8	Turlock	W6XK 209/883-2968	w/i OK	May 20	Youngstown	James, N8IRL 216/534-1394	w/i limited
May 29	Vacaville	Irene, KK6XB 707/446-8376	w/i only	Oklahoma			
May 11	Yuba City	916/673-0868	w/i OK	May 21	Pawhuska	KY5J 918/337-4335, or WT5Z 918/287-3665	w/i OK
Colorado				Oregon			
May 8	Denver	Glenn, W0IJR 303/360-7293, 24-hr. voicemail	w/i OK	May 12	Roseburg	AA7GC 503/672-7564	w/i OK
May 15	Westminster	AA0BZ 303/421-2795; N0HNR 303/278-4280	p/r or w/i	Pennsylvania			
Connecticut				May 21	Butler Co.	W3DMB 412/282-6777	p/r
May 22	Gales Ferry	Linda, WM1Q 203/449-0732	w/i only	May 1	Erie	W3CG 814/665-9124	w/i
May 23	Milford	NB1M 203/933-5125; WA1YQE 203/874-1014	w/i	May 6	Levittown	K3TX 215/946-1040, or 736-3333	p/r pref., w/i OK
Florida				May 7	Nazareth	Robin, WA3T 215/820-9110	w/i
May 3	Dunedin	Marv, WC2G 813/938-7810	p/r or w/i	May 7	Philadelphia	ND3Q 215/482-0386 or 215/879-0505	p/r pref.;
May 15	Melbourne	WB9IVR 407/724-6183	w/i OK	May 16	Uniontown	WB3DOD 412/246-2870	w/i OK
May 25	New Port Richey	Marv, WC2G 813/938-7810	p/r or w/i	Rhode Island			
May 8	South Miami	Ross, AC4KZ 305/233-7462	w/i OK	May 13	Providence	NN1U 401/231-9156 or 401/454-6848	w/i OK
Georgia				May 29	Slatersville	Bob, W1YRC 401/333-2129	w/i OK
May 8	Augusta	Jim, N4JA 404/790-7802	w/i	South Carolina			
Idaho				May 15	Charleston	Pat, AC4IH 803/553-3871	w/i
May 8	Boise	W7JMH 208/343-9153	w/i	May 1	Greenville	John, ND4N 803/288-0136	w/i OK
Illinois				May 15	Sumter	Dan, WB5SGH 803/775-9106	w/i
May 9	Bloomington	Ken, NX9M 309/662-3910	w/i OK	Tennessee			
May 15	Loves Park	Paul, WB9HGZ 815/987-6754	p/r; w/i	May 21	Carter County	Joe, K4BKI 615/543-4022	w/i
May 2	Paris	WO8X 217/463-2213	p/r; w/i	May 3	Chattanooga	Alan, WA4QCH 404/866-1200	w/i
Indiana				May 22	Greeneville	Jack, K4EPC 615/638-7056	w/i OK
May 14	Longsport	Bill, WA8HSU 219/722-1338	w/i OK	May 1	Henry County	Mackie, AA4YF 901/247-5489	w/i OK
May 11	New Carlisle	219/654-3007; or KK9T 219/654-8084	p/r	May 9	Jasper	Charles, KD4XX 615/942-5116	p/r pref.
Kentucky				May 15	Knoxville	Ray, N4BAQ 615/688-7771	p/r pref.
May 15	Louisville	Otis, AA4HJ 502/969-7332	w/i only	May 10	McMinn County	Evan, WA4PNI 615/263-9300	w/i OK
May 8	Middlesboro	Andrew, WB8WEZ 606/248-0046	w/i OK	May 22	Memphis	Win Guin, W2GLJ 901/754-4552	w/i OK
Maryland				May 6	Morristown	Roy, KF4CB 615/586-3491	w/i OK
May 26	Glen Burnie	Jerry, NU3D 410/761-1423	p/r pref; w/i ltd.	<i>(please turn to page 80)</i>			
May 2	Landover	Freddie, NG3G 202/546-9348 or 301/773-2898					
May 15	Laurel	WB3GXW 301/572-5124 after 6 p.m.	p/r pref.				

When will AMSAT-OSCAR-13 be in range?

ROSS FORBES, WB6GFJ

Those just starting out in the world of OSCAR communications would like to know when they can hear a satellite. The following charts are produced to give you a rough idea as to when OSCAR-13 will be within range of your location. The three charts as printed are centered on the following geographic locations: East = New York City; Mid = St. Louis, MO; West = Reno, NV.

As you read the chart nearest your location,

keep in mind the following details — all dates and times are given in UTC. The date is printed on the left hand column and the UTC hour along the top.

A dash mark indicates the satellite is out of range and therefore not able to be heard. The letter "B" indicates OSCAR-13 is audible at that location and signals should be heard between 145.810 and 145.880 MHz (SSB and CW). A letter "O" indicates the satellite is audible, but the only signal you will hear is the

telemetry beacon on 145.810 MHz. The letter "L" indicates the satellite is audible but you will hear signals between 435.650 and 436.000 MHz (SSB and CW).

Remember, if a letter is printed on the chart, you should be able to hear OSCAR-13.

For more information about OSCAR, please send a SASE to either of the following: Project OSCAR, P.O. Box 1136, Los Altos, CA 94023-1136; AMSAT-NA, P.O. Box 27, Washington, D.C. 20044.

Station East	HOUR - UTC
	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
5/01	LLLLLBBBBBBB-----BBBBBBBBBBBBLLLLL
5/02	LB BBBB-----BBBBBBBBBBBBLLLLL
5/03	BBBBBB-----BBBBBBBBBBBBLLLLL
5/04	BBBBBB-----BBBBBBBBBBBBLLLLL
5/05	BBBBBB-----BBBBBBBBBBBBLLLLL
5/06	B-----BBBBBB-----BBBBBBBBBBBB
5/07	B-----BBBBBB-----BBBBBBBBBBBB
5/08	BBBBBB-----BBBBBB-----BBBBBBBB
5/09	BBBBBB-----BBBBBB-----BBBBBBBB
5/10	BBBBBB-----BBBBBB-----BBBBBBBB
5/11	LLLLLBBBBBBB-----BBBBBB-----
5/12	LLLLLBBBBBBB-----BBBBBB-----
5/13	BBBBBB-----BBBBBB-----BBBBBBBB
5/14	BBBBBB-----BBBBBB-----BBBBBBBB
5/15	BBBBBB-----BBBBBB-----BBBBBBBB
5/16	BB-----BBBBBB-----BBBBBBBB
5/17	B-----BBBBBB-----BBBBBBBB
5/18	-----BBBBBB-----BBBBBBBB
5/19	-----BBBBBB-----BBBBBBBB
5/20	-----BBBBBB-----BBBBBBBB
5/21	-----BBBBBB-----BBBBBBBB
5/22	-----BBBBBB-----BBBBBBBB
5/23	-----BBBBBB-----BBBBBBBB
5/24	-----BBBBBB-----BBBBBBBB
5/25	-----BBBBBB-----BBBBBBBB
5/26	-----BBBBBB-----BBBBBBBB
5/27	-----BBBBBB-----BBBBBBBB
5/28	-----BBBBBB-----BBBBBBBB
5/29	-----BBBBBB-----BBBBBBBB
5/30	-----BBBBBB-----BBBBBBBB
5/31	-----BBBBBB-----BBBBBBBB

Station Mid	HOUR - UTC
	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
5/17	-----BBBBBB-----BBBBBBBB
5/18	-----BBBBBB-----BBBBBBBB
5/19	-----BBBBBB-----BBBBBBBB
5/20	-----BBBBBB-----BBBBBBBB
5/21	-----BBBBBB-----BBBBBBBB
5/22	-----BBBBBB-----BBBBBBBB
5/23	-----BBBBBB-----BBBBBBBB
5/24	-----BBBBBB-----BBBBBBBB
5/25	-----BBBBBB-----BBBBBBBB
5/26	-----BBBBBB-----BBBBBBBB
5/27	-----BBBBBB-----BBBBBBBB
5/28	-----BBBBBB-----BBBBBBBB
5/29	-----BBBBBB-----BBBBBBBB
5/30	-----BBBBBB-----BBBBBBBB
5/31	-----BBBBBB-----BBBBBBBB

Station West	HOUR - UTC
	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
5/01	LLLLLBBBBBBB-----BBBBBB-----
5/02	LB BBBB-----BBBBBB-----
5/03	BBBBBB-----BBBBBB-----
5/04	BBBBBB-----BBBBBB-----
5/05	BBBBBB-----BBBBBB-----
5/06	B-----BBBBBB-----BBBBBB
5/07	B-----BBBBBB-----BBBBBB
5/08	BBBBBB-----BBBBBB-----
5/09	BBBBBB-----BBBBBB-----
5/10	BBBBBB-----BBBBBB-----
5/11	LLLLLBBBBBBB-----BBBBBB-----
5/12	LB BBBB-----BBBBBB-----
5/13	BBBBBB-----BBBBBB-----
5/14	BBBBBB-----BBBBBB-----
5/15	BBBBBB-----BBBBBB-----
5/16	B-----BBBBBB-----BBBBBB
5/17	-----BBBBBB-----BBBBBB
5/18	-----BBBBBB-----BBBBBB
5/19	-----BBBBBB-----BBBBBB
5/20	-----BBBBBB-----BBBBBB
5/21	-----BBBBBB-----BBBBBB
5/22	-----BBBBBB-----BBBBBB
5/23	-----BBBBBB-----BBBBBB
5/24	-----BBBBBB-----BBBBBB
5/25	-----BBBBBB-----BBBBBB
5/26	-----BBBBBB-----BBBBBB
5/27	-----BBBBBB-----BBBBBB
5/28	-----BBBBBB-----BBBBBB
5/29	-----BBBBBB-----BBBBBB
5/30	-----BBBBBB-----BBBBBB
5/31	-----BBBBBB-----BBBBBB

Station Mid	HOUR - UTC
	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
5/01	LLLLLBBBBBBB-----BBBBBB-----
5/02	LB BBBB-----BBBBBB-----
5/03	BBBBBB-----BBBBBB-----
5/04	BBBBBB-----BBBBBB-----
5/05	BBBBBB-----BBBBBB-----
5/06	B-----BBBBBB-----BBBBBB
5/07	B-----BBBBBB-----BBBBBB
5/08	BBBBBB-----BBBBBB-----
5/09	BBBBBB-----BBBBBB-----
5/10	BBBBBB-----BBBBBB-----
5/11	LLLLLBBBBBBB-----BBBBBB-----
5/12	LB BBBB-----BBBBBB-----
5/13	BBBBBB-----BBBBBB-----
5/14	BBBBBB-----BBBBBB-----
5/15	BBBBBB-----BBBBBB-----
5/16	BB-----BBBBBB-----BBBBBB

Texas

May 8 Houston Jim, KB5WAM 713/486-2032
 May 11 Houston ND5F 713/464-9044
 May 8 Midland KT5G 915/694-9450
 May 29 San Antonio K5JWK 512/657-1549
 May 15 Tomball Paul 713/351-8930

Vermont

May 15 Montpelier WB1AJG 802/433-6172

Virginia

May 1 Hampton N4BDH 804/487-8611
 May 15 Roanoke Fred, KZ4Y 703/366-6266 w/i OK
 May 28 Stafford David, K9MX 703/659-6241; w/i
 Jim, N4LZJ 703/786-8012 w/i

Washington

May 22 Bremerton Dave, AA7IA 206/698-9205 w/i

Wisconsin

May 8 Manitowoc KD9IA 414/788-3823 w/i

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