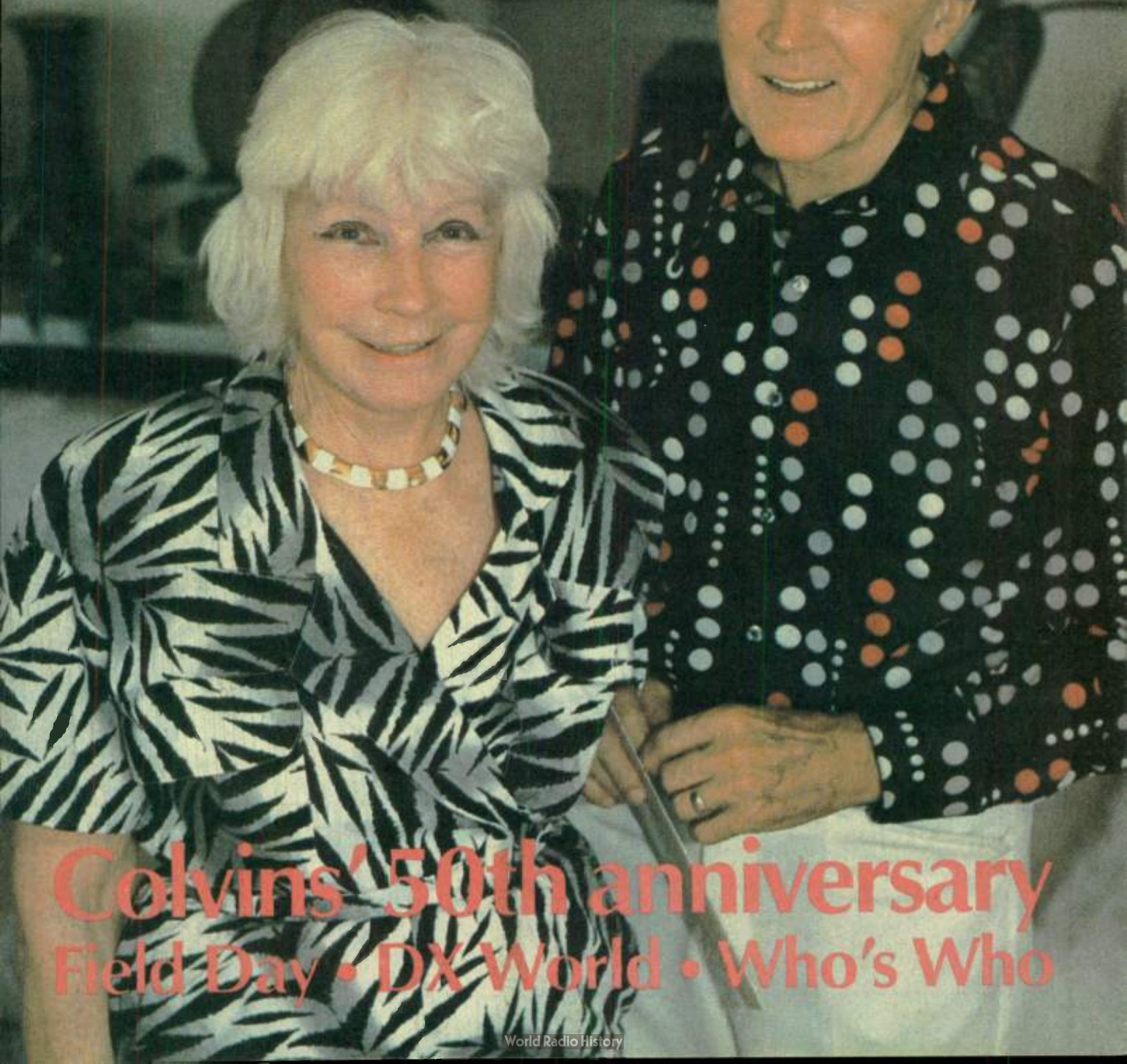




Worldradio

Sept. 1988

Year 18, Issue 3 • \$1



Colvins' 50th anniversary
Field Day • DX World • Who's Who

A WELL KEPT SECRET

The 2002A and 3002A 2 meter VHF power amplifiers from Henry Radio

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Happy Anniversary to W6KG & W6QL

Mr. and Mrs. DX celebrated their 50th wedding anniversary. Naturally, it was done in the presence of a large gathering of Amateur Radio operators. Guests found food, drink and the world's largest QSL card collection.

If over the past 60 years you've never worked a Colvin, your rig must have been in the pawnshop!

Lloyd and Iris (when you say Lloyd and Iris, calls and last names seem superfluous, for there is no other Lloyd and Iris they could be confused with) have made well over 1 million QSO's.

How impressive is that? Well, since they have about 100 years of amateur license between them, that's averaging over 10,000 QSO's a year!

Lloyd was licensed in 1929 (at the age of 12). Iris got her ticket in 1945. He missed the DXing sunspot maximum of the '40s as the frequencies were being used for other purposes (in which he played a role as a Signal Corps officer).

The really awesome fact about their stunning statistics is that the vast majority of those contacts was made from overseas. In what they have accomplished, there is no one in second place or even third place.

They have worked DXCC from well over 100 countries. Right, over 100 countries contacted from each of 100+ countries they have used as the base of operations. In total, they've

operated from 140 countries.

It would be possible to apply for your own DXCC award by just submitting cards of Colvin contacts.

They have received over a half-million QSL cards and kept them neatly filed in metal file drawers; it's almost a ritual that visitors to their Richmond, CA home delve into the files to find their own cards.

This combined 100 years of marriage and DXing all resulted from a blind date while both were attending the University of California at Berkeley.

Lloyd went into the Army in 1940 and spent 23 years in uniform. The DXpeditioning started in 1965, so the contacts have been made in a far more compressed time frame than the 10,000 QSO's a year over their careers would indicate.

For the few who don't study their geography, we'd like to point out that to operate from as many countries as they have (and they've gone to others where operating permission was denied), one has to go far beyond where there are Hiltons. You are really in "don't drink the water" country. One is surrounded by diseases not even mentioned in the medical texts in this country.

Operating as they have done is a feat in itself, but just try and imagine all the planning and effort it has taken!

In the near future, *QST* will be running a major article on the worldwide accomplishments of this intrepid duo.

And they're not sitting on their laurels. At the present time, work is progressing toward getting them to (please turn to page 6)



After 50 years, jitterbugging is still fun.

Photography by
Armond Noble, N6WR

FRONT PAGE: Lloyd (W6KG) and Iris (W6QL) Colvin recently celebrated their 50th wedding anniversary.

CONTENTS

FEATURES

Amateur Radio on the Iditarod — 22
Charge-assist your IC-2AT — 20
Field Day operators put to the test — 36
Happy Anniversary to W6KG & W6QL — 3

Product Review — 61
Tower gets 'OK' — 10
Worldradio on Field Day — 7

COLUMNS

Advertisers' Index — 63
Aerials — 53
Amateur "Hi" — 24
Amateur Radio Call Signs — 8
Awards — 40
Contests — 57
Digital Bus — 43
DX Prediction — 31
DX World — 29
FCC Highlights — 8
Hamfests — 54
MART Classifieds — 62
Mobile — 41

New Products — 58
Publisher's Microphone — 4
QCWA — 39
QRP — 48
Six Shots! — 44
Special Events — 14
Station Appearance — 28
Subscription, *Worldradio* — 9
Traffic — 51
VE Exams — 12
Who's Who — 26
10-10 International News — 46

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You readers are participants — an alliance of active radio amateurs concerned with reality, using radio as a communications tool to develop the skill, quality and full potential of Amateur Radio.

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PUBLISHER'S MICROPHONE

The first order of business is to properly recognize those who have most recently joined the ranks of the enlightened, Worldradio Lifetime Subscribers: Douglas Thompson, NL7NL, who does good works with the Coast Guard up in Alaska; Dr. Alan Donoghue, ZL4QT, in Dunedin; Joshua Lachterman, AA6IT, Desert Hot Springs, CA; Steven Wood, KI6TZ, Palo Alto, CA; and Robert Armor, KF6KR, Costa Mesa, CA.

It was nice of Nash Williams, W6HCD, to write, "Congratulations on 17 years of dedication to ham radio." Nash has been involved in much cross-border goodwill efforts.

Jim Gundry, W4JM, Lakeland, FL, said, "I note continuing improvement in the contents." Thanks. As more and more join up as subscribers and send in the material, we have more to print.

An interesting letter came in from Joseph McGrath, W1CC, Hanover, MA, who was licensed in 1916.

Dick Van Wickle, W6TKA, Columbia, MO, told us to expect some articles from him.

Speaking of articles . . . Should any sort of emergency occur in your locale,

please send in an after-action report to Worldradio. The odds are that something serious will happen everywhere. Your report will be of assistance to a group in another city making their preparations. Anyone saying, "It can't happen here," is really head-in-the-sand.

Speaking of emergencies and preparation (or lack of), we've just had Field Day.

To make it more realistic, isn't it time to drop the option to set up a full 24 hours ahead? When in history has anyone been able to set up the day before the emergency?

Barney Miller: What have you got there, Harris?

Sgt. Harris: Well, Barn, if I can stop tripping over all these aluminum poles on the floor . . . I've got five radio types who showed up at a park in Brooklyn saying they were getting set up for the earthquake tomorrow.

Barney Miller: Hmmm, haven't heard anything like that since Wojo found that group that said there would be a toxic spill in the Bronx in three days.

Sgt. Harris: The usual, huh Barn? Call Bellevue to come and get them.

The question must be asked, is this truly a test of emergency preparedness, or is it just Sweepstakes outside?

Some of the other nations seem to be a bit more realistic about their Field Days. They are restricted to antennas no higher than 30 feet, one element and the like.

Heard an amateur on 20M grumbling to a friend of his about the fact that someone he knew wanted to get a license, but he didn't have the time to learn the code.

Well, if a person can't find the 15 minutes a day to listen to a tape, he won't be able to find the time to get on the air either, so what is he complaining about?

Another phrase we used to hear was "I know an electronic genius who would like to be a ham, but he says he wouldn't use the code so he doesn't want to learn it."

It would be nice if there really were that many "electronic geniuses" around. Genius is pretty rare. On the other hand, there are a lot of very bright people in electronics and when they heard the rules of the game, they went right out and learned CW. Such are the people who make OSCAR possible for the rest of us.

There are a lot of amateurs with EE's, or MS's or Ph.D.'s. They don't whimper about a CW test, they just go and do it.

Patty Winter, N6BIS, Sunnyvale, CA, sent in her QSL card. On the front is a photograph she made of the total solar eclipse of 16 February 1980 at Voi, Kenya. QSL cards of an individual nature are certainly more meaningful to the recipient than the cookie-cutter ones. If you can't think of anything creative or personal, put your dog on it. At least that way others will know you have a dog, which is more than the almost anonymous cards tell.

—Armond, N6WR

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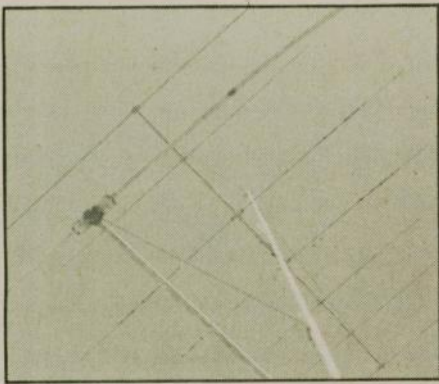
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Antenna atop Lloyd and Iris's Richmond, California home.

Anniversary

(continued from page 3)

some other far-flung corner of the planet.

Here is the admirable fact about them. They have chosen, with the risks in the backwaters of the world (injury is not unknown to them), this avenue of Amateur Radio. Others have put sums into "super-stations" which, if put into banks instead, would have accrued enough interest to fund DXpeditions.

One group operates in comfort. The Colvins have chosen heat and bugs, giving out the contacts instead of just taking them in. There's a big difference.

They have had their share of "Only one flight a week to there," and the plane looks like a rubber band is keeping it in the air.

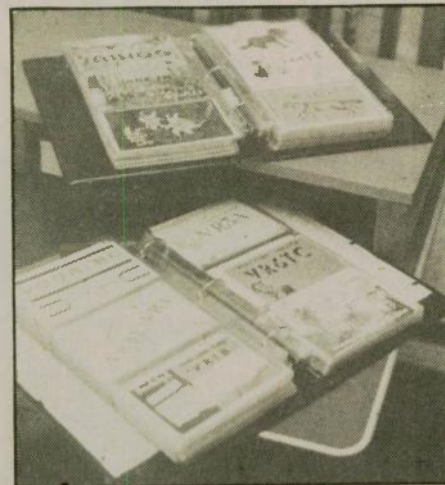
You are in your comfortable shack working them. They are in a country on the equator where air conditioning is something the people see in ads



Ross Forbes, WB6GFU (left), and Bill Stevens, W6ZM (right), chat in front of part of the world's largest QSL collection.

when a year-old copy of *LIFE* magazine is passed around.

When some amateurs travel, they



Lloyd has selected a few choice QSL cards and arranged them in a book by category—flowers, animals, humor, etc. The album at the bottom of the picture is arranged by country.

are concerned whether they get first or second seating on the luxury cruise line. The Colvins are just hoping the food has been cooked.

Some get their excitement from the shoot-em-ups on TV; for the Colvins it's real bullets down the main street. "Well, dear — we timed it just right. Sure didn't want to miss this month's coup."

The next time we jot one of their calls into the logbook, an extra tad of appreciation to W6King George and W6 Queen Lady contact may be in order.

—N6WR

NEWS FLASH

On Friday, July 22, at 1500 UTC, a milestone in Amateur Radio was reached when OSCAR-13 was turned on for users during Orbit 80. Awards will be given to first-day users and listeners. The 2M beacon frequency is 145.812.

Amateurs the world over are dusting off their OSCAR-10 equipment to work on this new replacement satellite. OSCAR-13 is in the exact orbit for which it was designed. Users will have excellent DX communications — often more than nine hours per day.

The AMSAT organizations are to be congratulated on this outstanding feat.

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LEFT: John Minke, N6JM, paperworks while Chris Wilson, KA6TAL, hauls them in. **ABOVE:** In a few minutes will come the mad dash to put all this up in the air.

Worldradio on Field Day

"Oh, am I sunburned!" How many thousands of amateurs said that on the last weekend of June?

That's part of Field Day, and this was the 52nd running of the summer classic.

Sponsored by the American Radio Relay League, it's a 27-hour test of furnishing your own power for the rigs and keeping log and dupe sheets from blowing away in the wind.

Fun, yes, but the history of FD is complete with stations converting from practice to the real thing.

Officially, the event is "dedicated to advancement of emergency readiness of the Amateur Service." And it is.

There is also "seeing how we did" in QST. Pity the poor club member who tallies the results, deciphering hastily-written calls, and checking logs and dupe sheets.

It's an emergency exercise and eating out of cans, sleeping on the ground or in a station wagon is an important part of it.

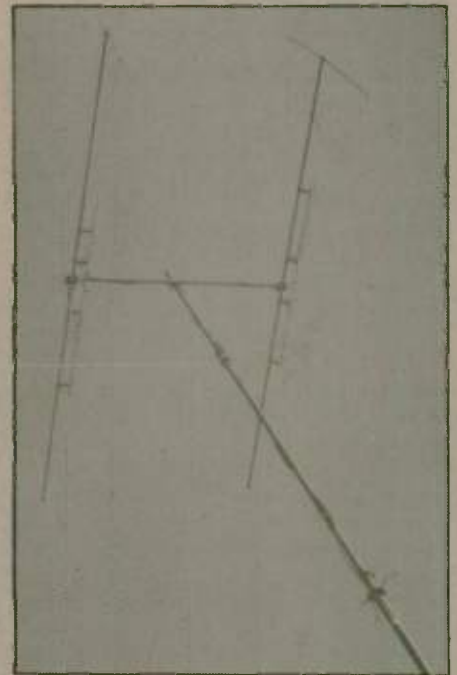
A bug bites . . . "What I'd give for a shower" . . . "I forgot to bring a . . ." It's all part of Field Day, and it trans-

lates into the fact that in every emergency of any note, the amateurs have performed superbly and garnered praise from government agencies and others for their performance.

(please turn to page 18)



Just about time. And where do you get the very most accurate time? Natch, from WWV, on a Sony 2002. When the 1800 UTC beep beeps, we roll. Norm Brooks, K6FO, timekeeper.



The Butternut Butterfly up about 40 feet brought a lot of "good signal" words on 20-15-10.



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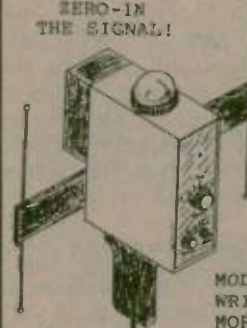
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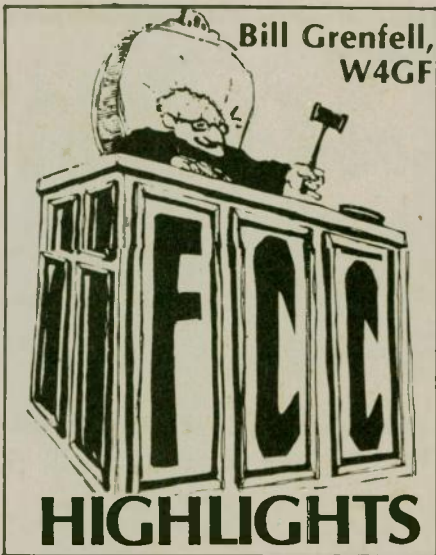
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"The Department of Defense and the National Communications System have come down hard on United Parcel Service and its attempted grab of the lower 40% of the amateur 1¼M band (220-222 MHz). It did this in response to late-filed comments by UPS on Docket 87-14.

"The DOD indicates that it is in the midst of several research projects that show the importance of keeping radiolocation as the primary service from 216 to 225 MHz. Amateur Radio shares the 1¼M band with radiolocation.

"Concurrent Resolution 317 was introduced in the U.S. House of Representatives on June 14 . . . to express the Sense of the Congress concerning support for Amateur Radio and Amateur Radio frequency allocations vital for public safety purposes." (Introduced by Representatives Dornan, CA and Goldman, CT). (*Westlink Report*, 06/10/88 & 06/24/88)

"In . . . General Docket number 88-821, the FCC has proposed the labeling of radio scanners to advise users that it may be unlawful to intercept protected communications.

"The FCC said the advisory label would be the simplest and least burdensome method of alerting the public that some uses of scanning devices are prohibited. Apparently this would not affect Amateur Radio receivers, because those receivers marketed for 'licensed services' are ex-

cluded from the action." (*ARRL Letter*, 06/11/88; *Westlink Report*, 06/24/88; *W5YI Report*, 06/15/88)

"Lawrence R. Kevor has been appointed as Assistant to the Chief of the FCC's Private Radio Bureau. A career FCC staff member since 1983, Kevor has served as the Senior Advisor in the Legal Branch, the Tariff Division and the Common Carrier Bureau before his appointment to this new position." (*Westlink Report*, 06/24/88)

"The Extra Class written examination will change to a new updated version on November 1, 1988. The QPC (Question Pool Committee) is currently considering newly submitted questions to the Element 2 (Novice) and 3A (Technician) examinations, which will be revised and implemented on November 1, 1989." (*W5YI Report*, 06/15/88)

At the ARRL West Gulf Convention this year, FCC's John Johnston expressed concern that examination cheating by applicants — and in some cases by volunteer examiners — is a growing and very expensive problem to the government.

"He said the VEC system is successful and working, but that VEC's must be very alert and watchful. He noted that, in some cases, innocent applicants are affected in that their examination results must be invalidated

because of improper testing procedures.

"The rules provide for license revocation, fines and imprisonment against those involved in fraudulent Amateur Radio operator examinations. The FCC is currently actively pursuing each of these punishments against those involved at all levels of the testing process.

"Johnston said a total of 49,728 applicants were administered 81,042 examination elements at 4,378 sessions in the VEC System last year — a record." (*W5YI Report*, 06/15/88)

A Centerdale (RI) amateur ". . . has received a written reprimand from the FCC for signing as a VE at a December 20, 1987, North Providence test session when he was not present. Three accredited examiners were at the test session, but one neglected to certify some of the applications."

The amateur, ". . . who was scheduled to conduct the examination and had been hospitalized, signed the Form 610's from his hospital room to expedite their handling." (*W5YI Report*, 06/15/88)

A Washington, D.C. amateur — Nickolaus Leggett, N3NL — has filed comments in the Docket 88-139 Part 97 rewrite asking that amateur licensees be allowed to experiment with radar technology, to develop radar sets for the blind, for mobile robots, digital processing systems for fixed (please turn to page 10)

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 July 1, 1988.

For more information about the call sign assignment in the Amateur Radio Service, see Section 97.51 of the FCC Rules, or write to the FCC, Consumer Assistance Branch, Gettysburg, PA 17326.

Radio District	Group A Am. Extra	Group B Advanced	Group C Tech/Gen.	Group D Novice
0	WK0B	KE0WN	N0JMN	KB0CYK
1	NS1G	KC1KC	N1FVG	KA1SIH
2	WI2D	KE2HU	N2IJP	KB2GAX
3	NQ3T	KD3IJ	N3GIW	KA3TJA
4	AB4IW	KM4DY	N4TFY	KC4GAT
5	AA5GR	KG5LG	N5MUL	KB5GTF
6	AA6JH	KJ6IV	N6SOW	KB6ZBI
7	WQ7F	KF7LM	N7LIA	KB7FIZ
8	WI8F	KE8ST	N8JRE	KB8FEJ
9	NZ9R	KE9LN	N9HPL	KB9BDW
N. Mariana Is.	AH0F	AH0AE	KH0AK	WH0AAH
Guam	AH2K	AH2BY	KH2DH	WH2ALQ
Johnston Is.	AH3B	AH3AC	KH3AB	WH3AAC
Midway Is.		AH4AA	KH4AD	WH4AAF
Palmyra, Jarvis Is.	AH5A			
Hawaii		AH6JC	NH6PS	WH6BZC
Kure Is.			KH7AA	
American Samoa	AH8C	AH8AD	KH8AG	WH8AAX
Wake Wilkes Peale		AH9AD	KH9AD	WH9AAH
Alaska		AL7KB	NL7OF	WL7BRV
Virgin Is.	KP2Y	KP2BN	NP2CR	WP2AGA
Puerto Rico		KP4PK	WP4PX	WP4IBR

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FCC Highlights

(continued from page 8)

radar units, etc. He proposes that all but Novice Class operators be allowed to use not more than 50W for such purposes in the 1200 MHz, 24 GHz and 47 GHz amateur bands. (W5YI, 06/15/88)

"... the ARRL will file comments in opposition to RM-6363, a petition ... seeking sideband privileges in the 10.1-10.15 MHz band (30M), which is currently an exclusive CW and RTTY/data band. (ARRL Letter, 06/11/88)

"The FCC has denied a petition by Carroll L. Norton, NA4I, which sought to authorize the use of amateur stations for communications between family members, limited to families where at least one person holds an amateur Extra Class license.

"The petition sought to permit the licensee's immediate (non-licensed) family members to act as station control operators, but only for communications with the Extra Class operator."

In denying the petition, FCC said the Amateur Service should not be used as an alternate to other radio ser-

vices, referring to the qualified operator requirements of the international Radio Regulations, and of the Communications Act of 1934.

The FCC further stated: "The petitioner, in effect, seeks to use the Amateur Service for a purpose not intended (i.e., as a personal radio service), and a primary purpose of the Amateur Service is to improve and expand our country's reserve of radio operators who contribute to the advancement of communications technology. Only Amateur Radio operators who possess technical knowledge and operating skills are capable of

meeting these objectives.

Thus, the purpose of the Amateur Service is best served by the application to all users of a licensing requirement based on demonstrated abilities." (ARRL Letter, 06/11/88)

END-OF-MONTH LICENSE TOTALS

April	1988	May
44,819	Extra	45,208
98,403	Advanced	98,493
113,623	General	113,648
95,810	Technician	96,888
82,780	Novice	82,675
435,435	Totals	436,912

Tower gets 'OK'

After almost 16 months of legal fighting, the borough of River Edge, New Jersey, has agreed to let an Amateur Radio operator erect a 40' radio tower in his backyard.

The borough and Anthony Izzo, WA2INW, recently reached a settlement that will allow Izzo to exceed the town's 35' building height maximum. The town also agreed to pay Izzo's \$10,000 legal expenses he incurred while fighting the borough.

In return, the borough will avoid a federal lawsuit that could have cost it more than \$200,000 in legal fees, Mayor Robert Graillat said. The settlement also was prompted by the borough's belief that members of the Planning Board who had rejected Izzo's application to build the tower would not be covered for damages by the municipal insurance carrier.

"The whole case was stupid," said

Izzo's attorney, Robert Cherry, K2-HBX, who also serves as legal counsel for the ARRL.

Graillat said the town settled because legal expenses would be too high. "We can think of better ways to spend \$200,000," he said.

The battle began when Izzo applied to build the tower, but neighbors complained that it would be ugly, that it would interfere with their television reception, and that it would damage neighboring property values.

Last year, Izzo filed a federal lawsuit against the borough of River Edge, the Planning Board, and each Planning Board member who voted against Izzo's application. The suit charged that the borough was violating his civil rights to communicate. He asked the court to overturn the board's decision.

The federal district court declined to assert jurisdiction to review the claim in April '87, and the case was dismissed. But Izzo appealed, and that decision was reversed by a Court of Appeals ruling in August '88. The court concluded that the asserted existence of a Commission order preempting local regulation of the height of antennas such as the one in issue constituted a special circumstance requiring that the district court retain jurisdiction and adjudicate the case.

The plaintiffs and defendants were planning to go to court when the town was notified by Borough Attorney Bruce Saftro that the board members were not covered for civil claims and they would be liable for damages if the town lost the case. Graillat said there is confusion about whether the board members are covered.

—The Bergen Evening Record, *River Edge, NJ*; submitted by Tony De Caro, K2OCU, and R.W. Johnson, N6ZH

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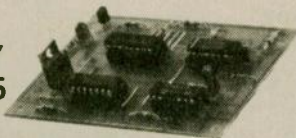
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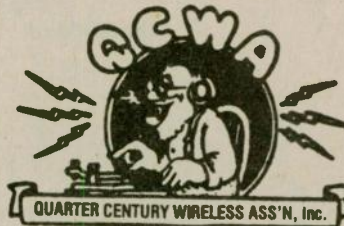
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PRB-1 upheld

In a 45-minute hearing on July 5, Champaign County (IL) Associate Judge Harry E. Clem dismissed a suit for eviction brought against Ivan L. Ruiz, NP4BU, citing federal preemption for cases involving radio frequency interference from an FCC-licensed Amateur Radio station.

Ruiz had been sued for eviction by the Winfield Village Cooperative, Savoy, IL, for alleged breach of contract by creating a nuisance in the operation of his Amateur Radio station and causing interference to the

entertainment equipment of neighbors.

Attorney Frederic M. Grosser moved for dismissal, citing the FCC's ruling, the Senate committee report, and cases adjudicated in the State Supreme courts of Kentucky and Minnesota. The judge agreed with Grosser, stating that the Congress' intent, precedence in other courts, the technical requirements for hearing such a case, and the remedies available through the FCC clearly argued for federal preemption in the matter. —Submitted by Jim Coleman, KA6A

Florida ham class

The Space Coast Amateur Technical Group of Melbourne, Florida will be sponsoring an Amateur Radio class from August 30 to December 13 at Hoover Junior High School/Hoover Adult Education Center, Room A-25, 1 Hawk Haven Drive in Indialantic.

The class will start at 6:30 p.m. each Tuesday. For more information, contact head instructor Bill Newkirk, WB9IVR, 3151 S. Babcock St., #70, Melbourne, FL 32901; (407) 724-6183 home or 768-7020 work.

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FT-767 4 Band New	1929.00	Call \$
FL 7000 15m 160m Solid State Amp	1995.00	Call \$
FT-70G Portable 10-80 Meter	1069.95	Call \$
Receivers		
FRG 8800 150 kHz - 30 MHz	759.95	Call \$
FRG 9600 60 905 MHz	699.95	Call \$
VHF		
FT-212RH NEW 2m, 45w mobile	459.95	Call \$
FT-290R All Mode Portable	599.95	Call \$
FT-230 R/TT Mini HT	344.95	Call \$
FT-209RH FM Handheld 5w	389.95	Call \$
UHF		
FT-712RH, 70cm, 35w mobile	499.95	Call \$
FT-711RH FM Mobile 35w	449.95	Call \$
FT-73 R/TT Mini HT	349.95	Call \$
FT-709RH FM HT 4w	389.95	Call \$
VHF/UHF Full Duplex		
FT-736R, New All Mode, 2m/70cm	1749.95	Call \$
FEX-736-50 6m, 10w Module	259.95	Call \$
FEX-736-220 220 MHz, 25w Module	279.95	Call \$
FEX-736-1 2 1.2 GHz, 10w Module	539.95	Call \$
FT-690R MKII 6m, All Mode, port.	569.95	Call \$
Dual Bander		
FT-727R 2m/70 cm HT	439.95	Call \$
220 MHz		
FT-33R/TT, mini HT	344.95	Call \$
FT-109 RH New HT	399.95	Call \$
FT-312 RM, Mobile	TBA	Call \$
FT-311 RM Mobile	499.95	Call \$
Repeaters		
FTR-2410 2m Repeaters	1269.95	Call \$
FTR-5410 70cm Repeaters	1289.95	Call \$

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IC-751A Gen. Cvg Xcvr	1699.00	Call \$
IC-575A 10m/6m Xcvr	1399.00	Call \$
Receivers		
IC-R7000 25-1300 + MHz Rcvr	1199.00	Call \$
IC-R71A 100 kHz-30 MHz Rcvr	999.00	Call \$
VHF		
IC-228A New 25w Mobile	509.00	Call \$
IC-228H New 45w Mobile	539.00	Call \$
IC-275A All Mode Base w/PS	1299.00	Call \$
IC-275H All Mode Base 100w	1399.00	Call \$
IC-28A FM Mobile 25w	469.00	Call \$
IC-28H FM Mobile 45w	499.00	Call \$
IC-2GAT, New 7w HT	429.95	Call \$
IC-2AT FM HT	319.00	Call \$
IC-02AT FM HT HP	409.00	Call \$
IC-μ2AT Micro HT	329.00	Call \$
IC-900 Six Band Mobile	639.00	Call \$
UHF		
IC-475A All Mode 25w	1399.00	Call \$
IC-48A FM Mobile 25w	509.00	Call \$
IC-4AT FM HT	349.00	Call \$
IC-04AT FM HT	449.00	Call \$
IC-μ4AT 440 FM HT	369.00	Call \$
IC-3200A FM 2m/70cm 25w	649.00	Call \$
IC-32AT Dual Band Handheld	629.95	Call \$
IC-4GAT Handheld	449.95	Call \$
220 MHz		
IC-375A All-Mode, 25w, Base Sta	1399.00	Call \$
IC-38A 25w FM Xcvr	489.00	Call \$
IC-37A FM Mobile 25w	499.00	Call \$
IC-3AT FM HT	349.00	Call \$
IC-03AT Deluxe HT	449.00	Call \$
1.2 GHz		
IC-1271A All Mode 10w	1269.00	Call \$
IC-1200 FM, 10w Mobile	699.00	Call \$
IC-12AT Deluxe 1w HT	473.00	Call \$

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TS-940S

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TS-940S/AT Gen. Cvg Xcvr	\$2449.95	Call \$
TS-440S/AT Gen. Cvg Xcvr	1379.95	Call \$
TS-140S Compact Gen. Cvg Xcvr	929.95	Call \$
TS-680S HF Plus 6m Xcvr	1099.95	Call \$
TL-922A HF Amp	1649.95	Call \$
Receivers		
R-5000 100 kHz-30 MHz	999.95	Call \$
R-2000 150 kHz-30 MHz	749.95	Call \$
VHF		
TS-711A All Mode Base 25w	1029.95	Call \$
TR-751A All Mode Mobile 25w	649.95	Call \$
TM-221A Compact FM 45w	439.95	Call \$
TM-2530A FM Mobile 25w	479.95	Call \$
TM-2550A FM Mobile 45w	499.95	Call \$
TM-2570A FM Mobile 70w	599.95	Call \$
TH-215A, 2m HT Has It All	379.95	Call \$
TH-25AT 5w Pocket HT NEW	349.95	Call \$
TM-721A 2m/70cm, FM, mobile	649.95	Call \$
UHF		
TS-811A All Mode Base 25w	1,229.95	Call \$
TR-851A 25w SSB/FM	749.95	Call \$
TM-421A Compact FM 35w	449.95	Call \$
TH-415A 2.5w 440 HT	399.95	Call \$
TH-45AT 5w Pocket HT NEW	369.95	Call \$
TW-4100A, 2m/70cm FM	599.95	Call \$
TH-55 AT 1.2 GHz HT	499.95	Call \$
TR-50 1w 1.2 GHz FM	629.95	Call \$
220 MHz		
TM-3530A FM 220 MHz 25w	499.95	Call \$
TH-31BT FM, 220 MHz HT	299.95	Call \$
TM-321A Compact 25w Mobile	449.95	Call \$
TH-315A Full Featured 2.5w HT	399.95	Call \$
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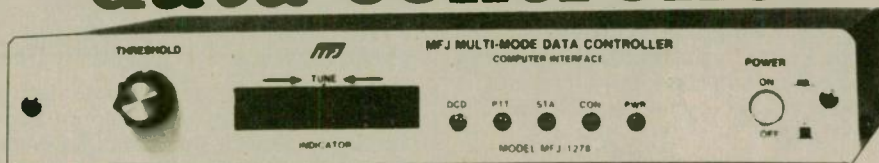
List the location, and information examinees should have (advance registration, etc.) and the name and telephone number of a person to contact for further information.

p/r = pre-register

w/i = walk-in

Date	City	Contact	Notes	Date	City	Contact	Notes
Alaska				Kansas			
Sept 3	Fairbanks	AL7IF (907) 474-0842	w/i	Sept 24	Topeka	NQ0S (913) 273-3328	w/i OK
Oct 1				Sept 27	Emporia	K0JDB (316) 343-2158	
Sept 3	Juneau	KL7KD (907) 789-0292	w/i	Sept 30	Kansas City	NC0M (913) 262-0631	
Oct 1				Maine			
Sept 7	Anchorage	KL7HFQ (907) 243-2221	w/i	Sept 10	Windsor	KQ1L (207) 623-2427	
Sept 14	Eagle River	KL7HFQ (907) 243-2221	w/i	Sept 18	Bath	ND1O (207) 443-2949	
Arizona				Maryland			
Oct 15	Tucson	W0YOY (602) 297-5885	30-day p/r	Sept 10	Germantown	W3QF (301) 564-0178	p/r pref
California				Sept 10	Salisbury	K3NOQ (301) 749-7444	p/r pref
Aug 27	Eagle Rock	WB6PSY (818) 710-1705		Sept 18	Baltimore	K3RMX (301) 578-8527	
Sept 24		N6JFG (213) 258-4860	w/i	Massachusetts			
Aug 28	Santa Cruz	KG6XY (408) 255-9000		Sept 17	Melrose	NC1V (617) 665-6061	w/i
Sept 3	Burbank	W6JEP (818) 848-9340	w/i OK	Oct 1-2	Boxboro	KA1AE (617) 887-2658	p/r by 9/1; some w/i
Sept 3	Riverside	(714) 780-2680	7-day p/r	Michigan			
Sept 3	San Diego	(619) 465-EXAM	p/r by 8/24	Sept 4	South Haven	WD8AGC/WD8MEU	
Oct 1			p/r by 9/21	Oct 2		(616) 637-3905	w/i
Sept 3	Van Nuys	N6LGO (818) 988-7165	p/r; ltd. w/i	Minnesota			
Sept 10	Apple Valley	K6BET (619) 244-6080		Sept 17	St. Paul	KA0OMX (612) 426-4438	p/r pref
		WB3KMZ (619) 240-2025	w/i OK	New Jersey			
Sept 10	Concord	WW6H (408) 255-9000	w/i only	Sept 3	Alpine	NZ2T (201) 348-0575	w/i OK
Sept 10	Long Beach	NN6Q (213) 420-9480	p/r pref	Oct 1			
Sept 10	Los Altos Hills	KG6XF (408) 255-9000	w/i only	Sept 10	Cranford	N2XJ (201) 635-7686	w/i OK
Sept 10	Novato	N6AQY (415) 897-8950	w/i OK	Sept 15	Bellmawr	WA2VQG (609) 546-7710	w/i OK
Sept 10	San Luis Obispo	W6ECY (805) 528-2934	w/i OK	Sept 17	Pennington	AA2F (609) 737-1723	w/i OK; call
Sept 10	San Marcos	(619) 465-EXAM	p/r by 8/31	New York			
Sept 10	Santa Barbara	KB5AH (805) 966-6620	p/r pref	Sept 10	Greenvale	W2NL (516) 541-2450	w/i OK
Sept 15	Fountain Valley	N6ISY (714) 775-6095	p/r	Sept 10	Selden	George Sintchek (516) 751-0894	w/i OK
Sept 17	Chula Vista	(619) 465-EXAM	p/r by 9/7	Sept 14	Bethpage	W2QUV (516) 354-6861	w/i OK
Sept 18	Sunnyvale	W6NLG (408) 255-9000	w/i only	Sept 25	N. Babylon	W2DUK (516) 957-5287	w/i OK
Sept 21	Eureka	KB6FIW (707) 442-9245	w/i OK	Ohio			
Sept 24	El Cajon/Escondido	(619) 465-EXAM	p/r by 9/14	Oct 1	Kirtland	KO8O (216) 256-0320	25-day p/r
Sept 24	Merced	K6RAU (209) 722-7183	p/r pref	Pennsylvania			
Sept 25	Santa Cruz	KG6XY (408) 255-9000	w/i only	Sept 3	Erie	W3CG (814) 665-9124	w/i OK
Sept 29	Long Beach	KA6HOQ (714) 897-6331		Oct 1			
Oct 2	Chico	NF6X (213) 434-8278	w/i OK	Oct 1	Pittsburgh	K3LIE (412) 563-2379	30-day p/r
Oct 2	Pleasant Hill	W6YKU (916) 342-1180	p/r pref	Oct 18	Apollo	KR3P (412) 568-3577	30-day p/r
		WX6A (408) 255-9000	w/i only	Texas			
Colorado				Sept 10	Austin	KF5NB (512) 272-8233	w/i
Sept 10	Denver	W0IJR (303) 366-9689	p/r pref	Sept 10	Midland	KT5G (915) 694-9450	w/i OK
Sept 25	Boulder	N0BWS (303) 530-1872	p/r pref	Sept 10	San Antonio	NS51 (512) 681-0702	w/i
Oct 1	Pueblo	WB0YES (303) 948-2291	30-day p/r	Sept 12	Brady	WD5H (915) 597-2561	7-day p/r
Delaware				Sept 24	Houston	NZ5V (713) 497-8750	w/i OK
Sept 24	Wilmington	FSARC 720 Marsh Rd.	w/i OK	Utah			
Florida				Sept 15	Salt Lake City	K7HFV (801) 582-2438	
Sept 6	New Port Richey	AA4FG (813) 849-1224	w/i OK	Vermont			
Sept 12	Ocala	NT4B (904) 237-5783	w/i	Sept 17	Montpelier	WB1AJG (802) 433-6172	p/r pref
Sept 15	Pensacola	AA4W (904) 968-6499	w/i OK	Virginia			
Sept 17	Melbourne	N4FUY (407) 768-0888	w/i OK	Sept 10	Richmond	WU4G (804) 798-5191	w/i
Sept 24	Fort Myers	NH6U (813) 283-5418	p/r	Washington			
Georgia				Sept 24	Milton-Freewater	KA7VHL (509) 525-0512	w/i only
Sept 17	Albany	K4XA (912) 883-7910	w/i only	Wisconsin			
Hawaii				Sept 17	Milwaukee	KB9G (414) 351-5311	w/i OK
Oct 15	Hilo	AH6P (808) 969-0222	w/i	Sept 24	Wisconsin Rapids	K9UTQ (715) 423-6368	
Illinois				Oct 1	Racine	NW9P (414) 658-8390	30-day p/r
Sept 10	Oak Forest	NF9N (312) 448-9432	w/i OK				
Oct 5	Granite City	N9MX (618) 344-8164	w/i OK				
Indiana							
Sept 3	South Bend	N19Y (219) 255-4455					
Oct 1							
Sept 11	Terre Haute	K9EBK (812) 466-2122	30-day p/r; w/i OK				
Iowa							
Oct 16	Des Moines	NA0R (515) 967-3890	p/r				

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MFJ gives you all the AMTOR modes: ARG (Mode A), FEC and Mode S (Mode B).

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You can transmit and receive 7 bit ASCII using the same shifts and speeds as in the RTTY mode and using the same high performance modem. You also get Autostart and selectable "Diddle".

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You get a Super Morse Keyboard mode that lets you send perfect CW effortlessly from 5 to 99 WPM, including all prosigns -- it's tailor-made for traffic handlers.

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A tone Modulated CW mode turns your VHF FM rig into a CW transceiver for a new fun mode. It's perfect for transmitting code practice over VHF FM.

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The CW receive mode lets you copy transmitted CW. Even with sloppy fists you'll be surprised at the copy you'll get with its powerful built-in software.

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You'll be fascinated as you watch WEFAX signals blossom into full fledged weather maps on your printer. Other interesting FAX pictures can also be printed -- such as some news photographs from wire services.

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You can print slow scan TV pictures on any IBM or Epson graphics compatible printer. If you have an IBM or Macintosh you can print to screen in near real time or from disk with the MFJ-1284 or MFJ-1287 Starter Pack.

You can transmit slow scan pictures right off disk -- there's no need to set up lights and a camera for a casual contact.

You can save slow scan pictures on disk from over-the-air QSOs, audio tapes and other sources if your terminal program lets you save ASCII files.

The MFJ-1278 transmits and receives 8.5, 12, 24, and 36 second black and white format SSTV pictures using two levels.

Contest Memory Keyer

Nothing beats the quick response of a memory keyer during a heated contest.

You'll score valuable contest points by completing QSOs so fast you'll leave your competition behind. And you can snag rare DX by slipping in so quickly you'll catch everyone by surprise.

You get iambic operation with dot-dash memories, self-completing dots and dashes and jamproof spacing.

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Turn on your MFJ-1278 and it sets itself to match your computer baud rate. Select your operating mode and the correct modem is automatically selected.

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SPECIAL EVENTS

Old Threshers Reunion

The Mt. Pleasant, Iowa ARC will be operating a special event station at the Midwest Old Threshers Reunion in Mt. Pleasant from August 31 to September 5. Using club call W0MME, they will be on 10-80M throughout the event. As in the past, the Iowa 75M Net frequency of 3970 kHz will especially be monitored.

A special QSL card is being issued to those who work the station, and can be obtained by sending an SASE to Dave Schneider, WD0ENR, 507 Vine, Mt. Pleasant, IA 52641.

Amateurs from the Mt. Pleasant area will also be on hand to provide emergency communications on the grounds and will be providing talk-in on the city's two repeaters: 147.99/.39 and 449.950/444.950.

Last year, 161 hams from 18 states and the island of Diego Garcia stopped by to sign the guest book at the ham shack on the grounds. Among those helping to operate the station, were Gary McMeins, N0FIB; Carl Owens, WB0CPR; Julie Billingsley, KA0UCN; Don Campbell, W0SWY; Dave Ruby, KA0FBL; Bill Barber, N00J; and Dave Schneider, WD0ENR.

The Old Threshers Reunion is an annual event which returns to yesteryear with working steam engines, antique cars and tractors, electric trolleys and other memorabilia from the past. This

year's new exhibit, "Electricity Comes to the Farm," will focus on the impact of electricity on the family farm in the early 20th century. — *Dave Schneider, WD0ENR*

Italian Heritage Festival

The Stonewall Jackson ARA will operate WB8ZVS on September 3-4, 1400-0100 UTC, from the West Virginia State Italian Heritage Festival in Clarksburg. Operation will be in the lower 25 kHz of the 20, 40 and 75M General Phone bands with some CW in the 40 and 80M Novice bands.

Send an SASE for certificate to: J.R. Chiado, KA8ZQP, 289 Magnolia Ave., Clarksburg, WV 26301.

Bicentennial event

The Corona Norco ARC will run a special DXpedition and travel 400 miles from Corona to Sacramento, the state capital, to operate W200TKV on Labor Day weekend as a part of the Bicentennial Celebration of the Constitution.

Operation will take place from a local motel with low band operation near 7230, 14250, 21350 and 28450 kHz. For a commemorative QSL card, send your QSL and SASE to W6TKV CBA or to CNARC, P.O. Box 1783, Corona, CA 91718.

Railroad celebration

The Cathedral Preparatory School Amateur Radio Association (CPARA) from Erie, Pennsylvania, will operate N3GCN from Titusville, PA on September 3-4 to commemorate the third consecutive year of operations of the Oil Creek and Titusville Railroad.

The station, which will operate from the newly-renovated Perry Street Railroad Station, will operate from 1400Z to 2130Z each day. Look for N3GCN on the following frequencies: CW — lower 25 kHz of Novice subbands only; SSB — lower 25 kHz of General subbands on 80, 40, 20 and 15M. Also Novice SSB on 28.350 MHz. There will also be some 2M repeater operation from a moving train on the W3ZIC repeater system on 147.12 MHz (+600) and 145.23 MHz (-600).

For a special QSL, send a #10 SASE or appropriate number of IRC's to: N3GCN/OC&T RR, RFD 1 Box 143-G, Titusville, PA 16354. DX QSL — please QSL to the 3rd Call Area QSL Bureau; address cards to Robert Myers, K3HWL, at same address.

Safe Labor Day

The Tri-City ARC will operate special event station KA1BB from the Waterford, Connecticut I-95 weigh station to promote safe Labor Day holiday auto travel. This event is in conjunction with the 6th annual Stay-awake Coffee Stop offered by BSA Troop 24, Niantic, Connecticut.

Operation will be from 1700Z, September 3 through 2300Z, September 5 in the middle of the 80, 40, 20 and 15M General Class phone and CW bands.

Talk-in to Coffee Stop on FM 146.52 direct and CB Channel 19. QSL with letter-size SASE via Tri-City ARC, P.O. Box 686, Groton, CT 06340.



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Constitution's 200th

The San Mateo Radio Club station, W6LMN, will help celebrate the 200th anniversary of the U.S. Constitution by operating as W200LMN, September 3-9.

W200LMN is planning to operate all modes and all bands from 1500Z to 0500Z daily, beginning at 0001Z, September 3 until 2359Z, September 9. For a QSL, send your QSL and a large SASE to W6LMN Trustee, P.O. Box 751, San Mateo, CA 94401.

Throughout California, there will only be five W200 stations. The SMRC is honored to be the only San Francisco Bay Area station authorized to operate W200 during that week. W200-LMN will be operated in a public area along with Amateur Radio exhibits for visitors. □

First automobile race

The Corona Norco ARC (CNARC) will operate the Barney Oldfield special event station from September 9, 0000Z to September 10, 2359Z using the call, N6MWH. This operation commemorates the 75th anniversary of the first automobile race back on September 9, 1913, which was witnessed by 65,000 people. Some of the more notable participants were Barney Oldfield, Ralph De Palma, Earl Cooper, Felix Magone and Teddy Tetzloff.

One of Corona's main thoroughfares, Grand Avenue, was black-topped and made into a racetrack for the event. This same circular roadway gave birth to the city's nickname "Circle City."

Operation will take place with low band operation near 3850, 7230, 14250, 21350 and 28450 kHz plus simplex operation on 2M. For a commemorative QSL card, send your QSL and SASE to CNARC, P.O. Box 1783, Corona, CA 91718. □

Battle of Lake Erie

On September 9, 10 and 11, members of the Oliver Hazard Perry Expeditionary Force will occupy Perry's Victory and International Peace Memorial at Put-In Bay, Ohio to commemorate the 175th anniversary of The Battle of Lake Erie.

Perry's victory led to the opening of the West and to a new-found respect between Britain and America that endures to this day. For almost two centuries, Canada and the United States have shared a continent with little more than a line on the map to separate us. Please join us to celebrate

175 years of Can-Am peace and friendship.

WD8LKI will commence operations on September 9 at 2100Z. *Suggested frequencies:* 28.365, 21.365, 14.265, 7.265 and 3.965 MHz. For a certificate, please send a QSL and large SASE to: Como. Wills, 30372 Bates Rd., Perrysburg, OH 43551-3828, USA. □

Pufferbilly Days

The Boone ARES will operate K0CY from 1400Z to 2300Z, September 10, in conjunction with the 12th annual "Pufferbilly Days" celebration commemorating the railroad heritage

of Boone. *Suggested frequencies:* 7.260, 14.300, 28.385, 145.01 packet, 146.25/.85 RPT.

For special QSL, send SASE and QSL to Pufferbilly QSL, P.O. Box 127, Boone, IA 50036. □

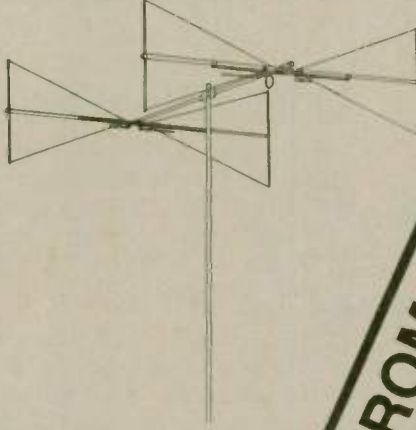
Paul 'Bear' Bryant

The West Alabama ARS of Tuscaloosa will be operating a special event station honoring college football and its greatest coach in history: Paul "Bear" Bryant.

The 6th Annual Bear Bryant special event station will operate from the University of Alabama campus, 1300Z-2300Z, on Saturday, September

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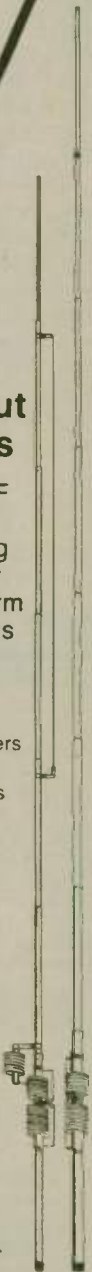
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10. The club will be using the call sign KC4GS and will operate in the bottom 25 kHz of the General 80-40-20-15M bands. The club also will be monitoring the club repeater on 147.90/30 MHz.

QSL for the special commemorative 8½" x 11" certificate is an SASE and QSL card to WAARS (Bear Station), P.O. Box 1741, Tuscaloosa, AL 35403, or to Kelly Bruce, WD4DAT, Rt. 3 Box 11, Northport, AL 35476. □

Los Angeles Fair

Special event station W6LAF ("Los Angeles Fair") will be on the air from the Los Angeles County Fair, the largest in the nation. Sponsored by the Los Angeles Area Council of Amateur Radio Clubs, the station will commemorate the fair and will publicize Amateur Radio to nearly 2 million visitors.

Look for W6LAF from 10 a.m. to 10 p.m. PDT (1700-0500 UTC), September 15 through October 2. *Suggested frequencies:* 3900, 7250, 14250, 21350, 28450 plus 2M packet and phone, 220 phone and 440 ATV and phone. Local announcements will be via the W6FXN repeater, 145.460(-) and the LAACARC.

For an embossed certificate with the fair logo and theme "Making Tracks," send your QSL and 45¢ postage to: W6LAF, P.O. Box 1770, Covina, CA 91722. *DO NOT* use the Callbook address. □

•••••

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Let's get Amateur Radio growing again!

Antique/collectors show

The Hastings (Nebraska) ARC will operate W0WVW from 1800Z, September 10 to 1800Z, September 11 at the Old Trusty Antique and Collectors Show at Clay Center, Nebraska. *Suggested frequencies:* 3.980, 7.280, 14.250 and 28.400; Novice SSB± 10 kHz.

For QSL, send #10 SASE to Hastings ARC, P.O. Box 128, Hastings, NE 68902. □

Rock Springs' 100th

The Sweetwater ARC will operate N7ERH and N7IQO from 1800Z, September 16 till 1800Z, September 17, to commemorate the centennial of the city of Rock Springs, Wyoming. Operations will be on the phone and CW bands on 3.923, 7.260, 14.300, 21.400 and 28.300.

For special commemorative certificate, send QSL card and 9"x12" SASE with two postage units to Richard A. Auble, N7IQO, 5020 Springs Dr., #34, Rock Springs, WY 82901. □

USS Silversides

With kind permission from the Muskegon County Maritime Museum, the MAARC W8ZHO will operate the first annual special event station from on board the USS *Silversides*, from 1300Z, September 17, to 1900Z, September 18.

USS *Silversides* is a World War II submarine that operated in the Pacific Sector and ranked third with 23 ships sunk, totaling over 90,000 tons. It is now ranked as #1 still afloat. *Silversides* has four Presidential Unit Citations as well as 12 Combat Stars; only one life was lost.

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21.320, 14.250, 7.250 and 3.850. QSL via KB8APS. U.S. SASE for card or 9" x 12" for certificate. DX cards via Bureau or 3 IRC's for certificate. Contact Robert "Scotty" Wright, KB8APS, 3160 Walker Rd., Muskegon, MI 49444. □

Winesburg Fall Fair

The Clyde Amateur Radio Society will operate station NF8E from the Winesburg Fall Fair on September 17, 1600-2200Z. *Frequencies:* CW - 3.720 and 7.125. *Phone* - 3.890, 7.250 and 28.40.

For QSL certificate, send QSL and business-size SASE to Steve Karr, NF8E, 302 Hamer St., Clyde, OH 43410-1212. □

Festival of Sharing

Amateur Radio operators from the West Ohio Conference of the United Methodist Church will operate WB8JQR and ND8U on September 24, 1300Z-2000Z, to celebrate its second annual "Festival of Sharing."

Suggested frequencies: lower 25 kHz of the General 40, 20 and 15M bands, and 28.350 MHz. For QSL/certificate, send QSL and #10 SASE to Chuck Kirkpatrick, WB8JQR, 121 W. Main St., Medway, OH 45341. □

Rivertown Jamboree

The Delta ARC will operate KA6SIP 1900-0100Z, Saturday, September 24 and 1900-2400Z, Sunday, September 25, to celebrate the Antioch Rivertown Jamboree. *Suggested frequencies:* *Phone* - 7.260, 14.260, 21.360 and 10M Novice 28.360; *FM* - 146.540/S; *Packet* - 145.01.

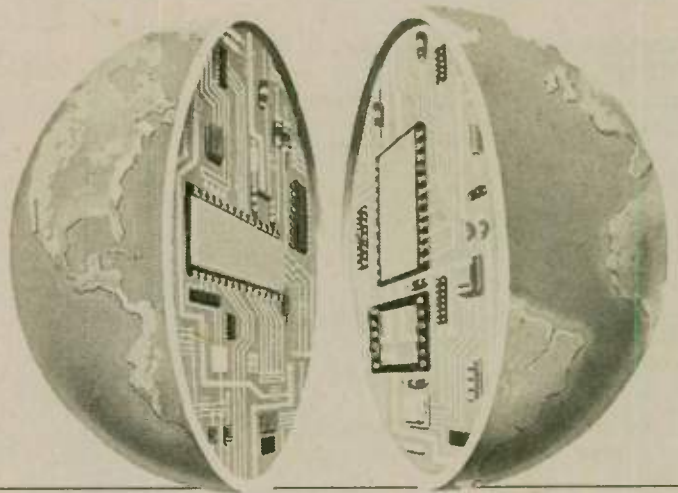
For commemorative QSL, send QSL and #10 SASE to Tom Deeble, KA6SIP, 2224 Carmel Ct., Pittsburg, CA 94565. □

Blue Water Bridge

In commemoration of the 50th anniversary of the International Blue Water Bridge between Sarnia, Ontario and Port Huron, Michigan, a joint operation — XL3IG — will take place from 2000Z, Friday, September 30 through 2400Z, Sunday, October 2. The event will be co-sponsored by the Lambton County ARC and the Eastern Michigan ARC.

Frequencies will be 30 kHz up on CW and 10 kHz up from the bottom of the U.S. General phone band (i.e., 3.830 kHz). A beautiful certificate will (please turn to page 18)

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Special Events

(continued from page 16)

be issued upon receipt of a large (#10 or larger) SASE, with your QSL to: XL3IG, c/o 801 Range Rd., Port Huron, MI 48060. For a QSL only, via bureau to VE3IG. □

1988 YLRL YL-OM Contest results

The winners of the 1988 YLRL-sponsored YL-OM Contest are as follows.

Phone: Gold Cup — (YL) Nancy Zitting, WE7D, and (OM) J. Bruce Siff, VP2E/W2GBX; **2nd Place** — (YL) Betty Collins, KC9V, and (OM) Jerry Skaife, W7ULC; **3rd Place** — (YL) I3KVV, and (OM) Dave Kuniholm, W1HOZ.

CW: Gold Cup — (YL) WE7B, and (OM) W7ULC; **2nd Place** — (YL) Marjetta Chance, K5YL, and (OM) Fred Borchardt, W9DYG; **3rd Place** — (YL) Marie Welsh, W6JEP, and (OM) Marshall Smith Killen, VE3KK. □

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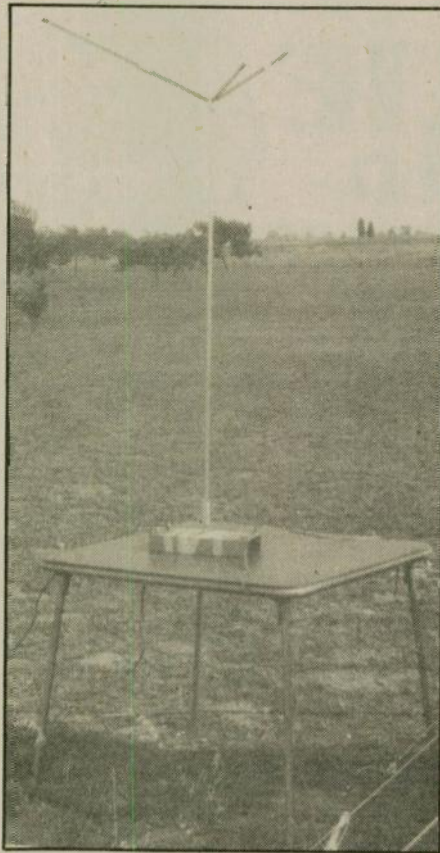
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First antenna on the air was the Spider. We put that little hummer on a card table and at one stretch made three contacts in three minutes.

Field Day

(continued from page 7)

Worldradio

This was the 17th time the Worldradio Staff ARC has been on FD (usually from different sites), meaning we've been in one-third of them.

We like the Le Mans start. That is, nothing happens until the dot of 1800Z. Car doors open, then out comes the rig, antenna and battery. Hurry, hurry.

From a standing start (we threw up a Spider antenna) till the first contact (NÜ7I in Arizona), there was 5 minutes and 12 seconds. The little shorty being used on 20M was also good for contacts at 1813, 14, 16, 19, 20, 21 and 29.

By then, a Butternut vertical was up in the air. Later, for the high bands a Butternut Butterfly was hoisted.

With our collection of ancient radio operators, in 1 Alpha, we worked all sections except Manitoba, Quebec, DE, IN, MS, OK. We hit just around our usual 500 or so contacts. When working the station at Guantanamo Bay, we figured whence they had procured their tent, canteens, web gear, etc.

And thanks to the many quick-minded ones who in the middle of the fray connected the call N6WR and said, "Hi there, Worldradio." □

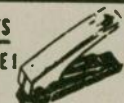
And now ... for the rest of the story

Chuck Clark, K4ZN

Dave MacDougall was sent by his editor to do a feature story on Amateur Radio last year for the Charleston (South Carolina) *News and Courier*. He interviewed some of the 500 or so amateurs in the area, and

was able to produce an interesting account.

Usually it takes an interested person to produce interesting writing, and this was no exception. Dave found himself interested enough to attend the classes being conducted at North

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Charleston High School, and found the classes interesting too — so interesting that he kept coming right to the end of the course, and then took and passed the examination.

A few weeks later the FCC informed him that he was KC4CRC and had all the privileges that go with the Novice license. Dave was still interested, went on to upgrade, and now signs the call N4SHT, has joined the club, and wrote an article about Field Day to provide publicity, thereby earning 100 points for the club's Field Day activity. And, of course, he now provides an inside track for publicizing the activities of the Amateur Radio community in the area. □

Tactical low-frequency antenna tested

The Space and Naval Warfare Systems Command (SPAWAR), under contract with Astron Corporation, will conduct tests on an experimental low-frequency antenna to determine its electrical performance characteristics and to evaluate its potential for various applications including tactical use aboard naval combatant ships.

The antenna is being developed under the Small Business Innovative Research program under a Phase II contract with Astron Corporation, Herndon, Virginia. A number of radio amateurs are working on the project including: Frank Gentges, AK4R; Steve Shergold, N4QYC; Chris O'Toole, N4SBY; Ed Rathbun, W4ZW; and Ed Ray, W4NEZ.

Testing will be conducted on a sporadic basis from August to October 1988 from test sites at Bumpass, Virginia and Carroll Island, Maryland. Transmitter output power will be 1kW. The antenna is a transmitting loop design in the shape of a triangle 65' high at the apex and extending 400' along the base. The wire is 0 gauge litz cable, and the loop is tuned with a combination of fixed and variable capacitance.

As part of the test program, listening reports from longwave listeners are requested. This qualitative data will augment field strength data taken by project personnel.

The objective of collecting the data

is to determine the potential coverage of a low frequency system using this type of antenna in a naval battle group. The primary operating frequency will be 185 kHz; 175 kHz is available as a secondary frequency.

The signal will consist of alternative periods of steady carrier and on-off keyed 10 wpm International Morse Code with the call sign NWA, the word "TEST", with a single alphabetic character related to the current test condition. Other information related to the test may also be included in the transmission sequence.

Detailed commented logs over a period of time will be especially useful,

although individual spot reports will also be of value. All reception reports should: identify the time and date, the location of the receiver, a description of the antenna and receiver, the received signal frequency, the signal quality (RST) and the test condition alphabetic character.

Reception reports will be verified with a special QSL card that is only available to participants in this test. Reception reports should be sent to: SPAWAR, NWA Test, Washington, D.C. 20363-5100. Current information on the test times and frequencies will be provided on a pre-recorded message at (703) 471-1539. □



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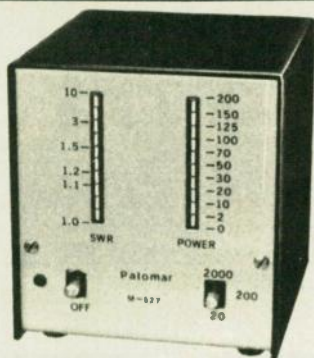


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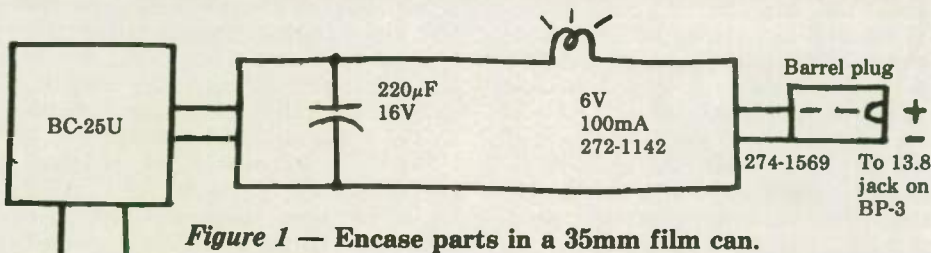


Figure 1 — Encase parts in a 35mm film can.

Charge-assist your IC-2AT

JIM OWENS, W5JQE

I like my 2AT. Keeping the battery charged is something else. No one warned me that the battery would "wear out" its charge in an hour or two on high power, or less than a working day on low power. But it didn't take me long to find out that I needed three BP-3 packs . . . one in use, one in my pocket and one on charge. A separate base-station rig would also help. Now we are talking about real money, as well as multiplying maintenance problems by a factor of four.

The 2AT is such a popular rig (HT, HH, WT) that I had no difficulty getting sympathy and advice from my friends, much of it along the above lines. Further evidence of the problem was confirmed by the plethora of magazine articles on the subject. Loads of hearsay and opinion on memory, reciprocity of charging time vs. charging rate, terminal voltage as a measurement of charge, contradictions, etc. Very confusing.

Going back to basics I restudied the 2AT IB and researched battery manufacturers' literature, rediscovering data which changed the entire approach to the problem.

For example, there was evidence that we — you and I and all of us — could "charge-assist" the nicad pack while using the 2AT, that trickle-charging it would do no harm, that short service-time is more often caused by insufficient charging time than by memory. Also, that the battery pack should never be "fully-discharged" unless that phrase was intended to mean the point where the battery fails to keep the transmit-lamp lit. At that point, the pack will indeed need about 14 hours of charge,

even if the terminal voltage gets as high as 10V in a much shorter period of time.

So what is the solution to this nagging problem of keeping the battery pack charged without taking it out of service? It turned out to be very simple. All you have to do is charge-assist the pack while you're using the 2AT.

What you need for this is a constant-current, well-filtered DC power supply which will deliver a little more current to the nicads, on an average, than is being taken out of them. Such a source can be put together for a couple of bucks in a couple of hours is the essence of this report.

Figure 1 shows how the BC-25U can be amended for charge-assist operation. The 220µF capacitor, in conjunction with the 330µF capacitor in the battery pack, gets rid of any hum in the received or transmitted signal.

The lamp pulls the elevated output voltage back down within the labeled 13.8V limit. More importantly, its non-linear resistance, together with the BP-3 electronics, holds the output current constant at about 35mA. This is just about right for 24-hour-a-day snooping, with near 30 for the receiver, and seven or so for the LED. Notice that no "crow-bar" circuit is used or needed. The lamp can burn out, but not short out. It's fail-safe.

Let's say you're one of us repeater buffs. Working on low power or the full 1½W, you talk in a range of minutes, listen in a range of hours. Then you turn off the squelch-tailed jabber-box while you are cutting the grass, laughing with Bill Cosby, rooting for the home team or committing other unrelated acts.

With the charge-assist plugged in, the battery loses a little charge while you're talking, picks up a little while you're listening, and recoups all the losses while you're engaged in those non-ham activities. Your battery may even gain enough energy to reach the trickle stage.

But there's more. You can disconnect the BC-25U and replace it with a cigar-lighter plug in your car. How

(please turn to page 22)

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Charge-assist

(continued from page 20)

about a QSO in your outboard when the fish aren't biting? No problem with your go-anywhere, full-time rig,

which is still a self-powered rubber-ducky.

My punch line is that I have not had to put mine on a regular charge since I started using charge-assist. And, like I said at the beginning, I like my 2AT!

Amateur Radio on the Iditarod

ANN GIBSON, NL7DG

In the winter of 1925, an epidemic of diphtheria broke out in the little isolated town of Nome. In those days the only way in or out during the winter was dog team, so brave mushers set out from Anchorage with serum to fight the epidemic. It was a race with death, through the bitter cold wilderness, by some of the world's best and bravest mushers.

Today, and ever since 1973, when Joe Reddington, Sr. and other Alaskans organized, the now-world-famous Iditarod Trail Race from Anchorage to Nome is run by some of the best and bravest mushers of our times. Volunteers make that race to Nome possible.

These volunteers work very hard to organize all the details of each year's race. In addition to organizers, there are also the pilots, veterinarians, trailbreakers, checkers and radio operators who give of their time and expertise during the race.

This story is about the Amateur Radio communications and the experiences of some of the hams who went out on the 1987 Iditarod Trail and the hams who relayed for them.

Twenty-five ham operators went out on the trail to man the 25 check-

points, with another 75 in Anchorage, Nome, Fairbanks and other locations throughout the state. They report the mushers' times in and out of checkpoints, handle medivac requests, relay messages for food and supplies, communicate flight plans, provide weather updates, and are there to provide emergency communications should the need arise.

Iditarod communications in 1987, with headquarters in Anchorage at the Clarion Hotel, consisted of mainly VHF, with HF as back-up. There were four repeaters situated along the 1,200-mile route — Anchorage, Tatolina, Unalakleet and Nome — dedicated solely to the Iditarod Race. Alascom's communications satellite, Aurora 1, linked the VHF repeaters which retransmitted the signals back to other operators along the way.

The system was backed up by HF, in case of repeater failures, and to cover the checkpoints out of range of the repeaters: Finger Lake, Rainy Pass and Rohn on the southern portion of the trail, and Elim, Golovin and White Mountain on the northern portion.

Phone service is available in most of the bush now, but 10 years ago, communication in the bush meant radio.



Harvey Rookus, NL7DK, at the Rainy Pass checkpoint during the 1987 Iditarod. Harvey was one of the many Amateur Radio operators who assisted with communications during this annual event in Alaska. Rainy Pass was one of the checkpoints that were out of repeater range. Three race checkers, three veterinarians and one ham (Harvey) operated out of this cabin.

However, the tradition of using Amateur Radio along the Iditarod is still vital.

In 1985, when Susan Butcher's team was stomped by a moose, her first available contact out of the bush had to depend on Amateur Radio. Through Joe Kile, NL7CP, at the Rabbit Lake checkpoint and another operator in Anchorage, Susan was

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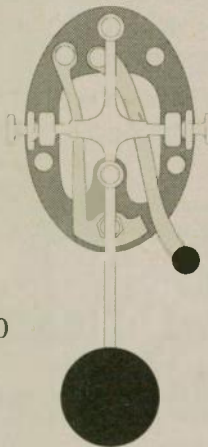
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patched through to her vet. Based on that call, Susan scratched from the race and medivac-ed her most seriously injured dogs to Anchorage.

Amateur Radio operators enjoy working the race because of the challenges inherent in operating from remote locations and under the pressures generated by the competition. What is learned on the race — operations in tough conditions, message handling, gear packing and transportation — is very transferable. In case of major disasters, hams will be better prepared because of their experience on the Iditarod Trail.

But what is it like out there on the Iditarod checkpoints, in little villages and towns, or just in a cabin somewhere, setting up radio equipment in conditions you have little foreknowledge of? Some places have no electricity or comfort facilities. Here are the stories from some of the radio amateurs who were out on the 1987 Iditarod Trail.

Harvey Rookus, NL7DK/ Rainy Pass

Rainy Pass is 223 trail miles from Anchorage, 100 air miles. I was flown in and landed on Puntilla Lake, bumping over the many frozen snow drifts, which made for an interesting landing. The ham shack was a 30'x20' log cabin at a hunting/fishing lodge that was basically closed for the winter.

There were three race checkers, three veterinarians and one ham operator in our group. The cooking facilities plus all supplies operated from this cabin. Operating space was from a table approximately 18"x30", sitting on the end of the bed I slept in. That is, I slept in it unless someone else beat me to it!

Prime communications was HF 3.940 MHz using an ICOM 735 and a 40/80M dipole. Power was a deep-cycle storage battery with a trickle charger to keep it going. I also had 2M capabilities, but we had no success in getting through to Anchorage headquarters, so we had to quit worrying about it.

The weather at Rainy Pass checkpoint was no problem. In six days we had clouds for only a few hours, the temperature was about an average of 15° above, and there was very little wind.

Opportunities to sleep were intermittent once the dogs started coming through. There were 63 teams that started the race. In one 24-hour period, I think sleep was about an hour-and-a-half at a time.

The relays that took place when the band would go bad were interesting. They were made through maritime mobile from a Coast Guard Cutter in

the Bering Sea, a ham in Dutch Harbor on the Aleutian Chain and many other stations throughout Alaska.

Pam Brandon, NL7JH/McGrath

I was new to Alaska, new to Amateur Radio, and last year I had never heard of Iditarod. So I was ready for an adventure. And that's what I got!

Day 1, we stood in the cold, counting dogs and searching for numbers at the edge of the woods on the trail out of Anchorage. The first five or 10 were exciting, but after 20 or 30 dog teams had slid by, it began to be old hat. "Here they come!" . . .

Day 2, George Hurd, KV9D, and I flew to our position in McGrath. I began to meet some of the wonderful people that made the adventure the fascination that it was. Bemji Menard, KL7NG, spent the first night with us on her way to Nikolai.

Days 3 and 4 were scattered days of catching up on the positions of all the teams, perfecting our antennas, talking with the locals, and learning all the Iditarod workers, pilots, trailbreakers, checkers, veterinarians and other volunteers. One of the vets comes to Alaska every year from France to help and to take back ideas.

Early on Day 5, our first dog team arrived. Now we had pure excitement! Number 51, Guy Blankenship, slipped into town at 0042 (AST) on Wednesday morning and declared his 24 hours (required rest period.)

From this point on, days and nights began to blend into one as the race came full upon us. Messages passed back and forth — "We need a plane to pick up dropped dogs" . . . "How far is the trail marked?" . . . "Libby Riddles has scratched!" Stop.

Big news! Everyone crowded



An "inside look" at the Rainy Pass checkpoint. This was the ham shack Harvey, NL7DK, operated from during Iditarod '87.

around as Bobby Lee explained that Libby Riddles, 1985 Iditarod champion and first woman to win the Iditarod, was out of the race. The pause of shock didn't last long; the race still had 60 other dog teams!

The continuous excitement blew by like a hurricane. Small snatches of stories were caught, like a checker reporting that one of Jerry Austin's dogs ran into a tree and knocked itself out! Jerry was afraid it was dead and wondered how he would explain a dead

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dog with a knot on its head! That brought laughter in the ham shack.

Then came tense news. Nikolai had to evacuate its checkpoint because of a local who decided he didn't like Amateur Radio interference with his HBO. Not at all amusing to Bemji (KL7NG) who was hearing gunshots and shouting.

The local sheriff hurried to rescue the operation. Eventually, this too passed by. There seemed to be no break in the continuous flow of information. Sleep was snatched in two- or three-hour increments, and showers were wished for by each — for themselves and others!

The race passed by and McGrath's time in the limelight was nearly over as the last three musher teams, the Colonel and his entourage arrive and declare 24 hours on Day 9.

I was exhausted, and upon finding a veterinarian pilot with room in his plane, was headed home. What a harrowing ride home! I was airsick for the first time from the roughness. We

were forced down by weather, then ended up ditching when we ran out of gas just short of landing at Merrill Field! (Continued next month)



Murl (KB6YPF) and Yvonne (N6RZT) Fox recently received their ham licenses. They were introduced to Amateur Radio last year by their grandson, Dennis Cheever, KI6QB.

It's never too late

Edd Lamb, K6LSB

"Well, it took a long time, but I finally made it." Murl Fox, KB6YPF — who celebrated his 97th birthday March 8 — has realized one of his dreams, and that was to become an Amateur Radio operator.

Murl got interested in radio some 20 years ago. First just tuning in on the shortwave bands listening to other people talk and then getting his citizens band license.

About a year ago he was introduced to Amateur Radio by his grandson, Dennis Cheever, KI6QB, who brought Murl and his wife Yvonne to the local radio club meeting. From then on, and with the help of some dedicated hams from the Porterville Amateur Repeater Association, Murl and Yvonne began to study, and in June, Murl received his Technician Class call.

Yvonne, N6RZT, has received her Technician call also and plans to continue studying to obtain her General and possibly higher class license. As far as Murl is concerned, he has to think about it for a while and just enjoy getting on the air on 2 and 10M with his fellow hams.

Amateur "Hi"

Ever had a funny or strange experience with Amateur Radio, either on or off the air? If so, type it up (or print neatly) and send it to us for consideration in our monthly AMATEUR "HI" contest. You could win a free year's subscription to Worldradio!

Better late than ...

Following is an incident that Jack R. Main, W4YCZ, of Norfolk, Virginia shared with us.

Breakfast was almost ready, But I fired up the 2M rig anyway to call Sid Evans, N4IIC, to get a bit of information I needed. I waited about a minute for a reply, but got none. By that time, the chow call was received and I left the operating position with the radio still on.

Two or three minutes later, I heard Sid calling me and I rushed back to answer him, remarking about the time lag between call and answer.

He explained that the reason for this was that he didn't have his 2M rig on and had heard me on 15M. Now, Sid lives about 10 miles from me and this sounded very unlikely — until he told me he had been listening to W4RGN talking on 15, who also had his 2M rig on when I called. My voice was picked up by his mike and retransmitted over the 15M frequency.

I don't have a clue as to how I should log this one, so I won't say anything if you won't. □



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" 3-211	2W	IN =	110W OUT
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" 3-312	30W	IN =	120W OUT

440 MHz Amps

RFC 4-32	3W	IN =	20W OUT
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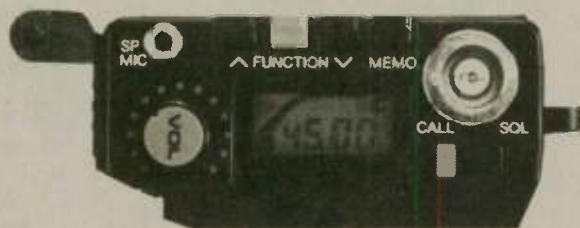
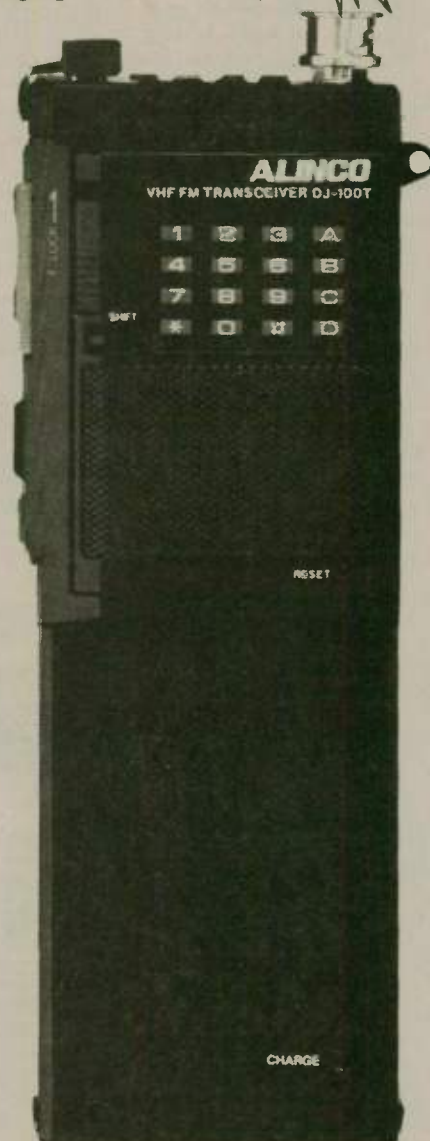
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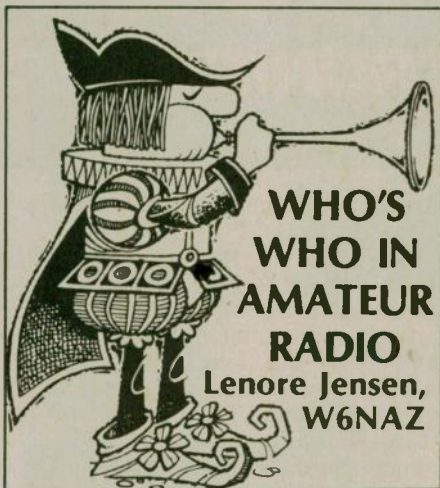
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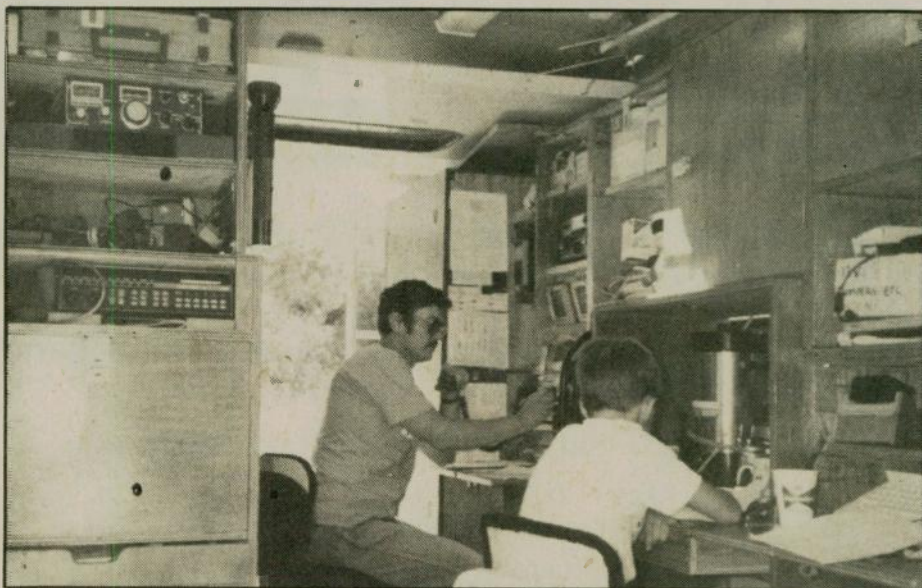
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We've already described the interesting career of Bob Burns, N6ZH, and his work with the American Red Cross, so here's a postscript about his "handmade" communications van.

"I've always been intrigued with operating mobile," he explains, "but my little VW Rabbit rebelled when I wanted to put more than one rig in it. Also, Naomi whimpered when I kept installing more and more gear inside the house. So why not go mobile in a big way — with a van.

"One day a friend brought to my attention some used postal vehicles for



Steve Brtis, WA6FGW, operated from the van at Field Day 1987. Logging for Steve was his son, Matthew, KB6OKN.

sale. Sure enough, there was a 20' 2½-ton step van you can stand up in and even jump up and down if you feel like it, should QRM be frustrating or DX give you a 9+. And there was plenty of room for all one's gear."

Bob's first decision was to run everything on 12 volts, so any unit could be unplugged and, for instance, put into a 4-wheel drive vehicle,

powered from a cigarette lighter. He's spent a lot of time out in muddy hillsides during heavy rains when communications have gone out.

"So there I was, looking at my big empty box painted funny colors. I decided painting was not my first priority.

"A generous soul donated a lot of ¾" plywood. By gluing panels together, I was able to build shelves and cabinets in modular format. Now, anything can be unbolted and redone. I put three solar panels on the roof; they'll help charge the five auxiliary batteries (105 amp hours each), so we can run a couple of days even if it's overcast."

(Even though this very modest man keeps saying "we," he finally admitted he paid for all gear himself and did 99% of the work.)

"Rigs? Well, there are two each for 2M, 220 and 440 MHz, typical mobile types up to 45W each, or even more. And when we might need long-distance capability, here's a 100W rig for the 'low bands' with a marine long-wire tuner so we can tune any long-wire or whip, 160 down to 10M.

"And oh yes, of course there's a transceiver on the Red Cross frequency, on the 47 MHz band.

"On previous emergency situations, Packet was invaluable for handling

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traffic, so there are three in this van. This one has a 12" monitor. Also, you never can tell what you'll need during an emergency; here are a couple of suitcase Packets, including gel cells.

"I've been impressed with ATV's usefulness. We've one in here permanently and another to be used as a 'creepie-peepie.' When the Pope was here, I used it to assist LAPD in surveillance.

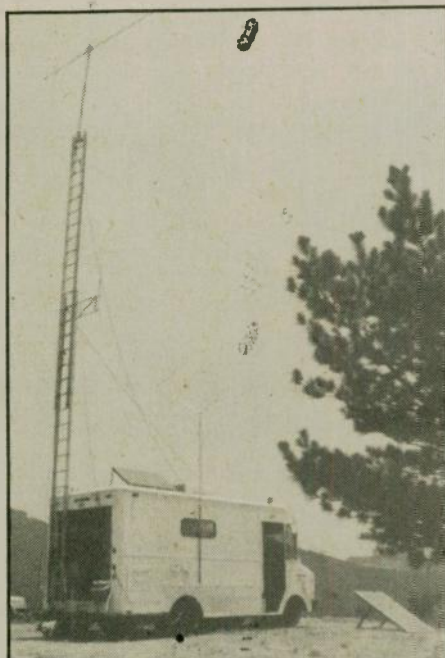
"You never know when you'll need a telephone. Of course, there's an auto-patch capability. But if the van were parked within a thousand feet of a commercial line, we've 1,000 feet of six-conductor line if anyone will allow us to plug in. One of the pair can be rigged for an intercom, such as near a police or fire command post."

Opening a cabinet, Bob pointed out several hundred feet of coax and a long 120V AC extension cable.

"Naturally, we had to have a 4kW generator and a 30 gallon auxiliary gas tank. If we have to charge the batteries, we just kick on the generator. If we want light at night, inside or out, it's handy.

"There's a 50 amp, 14V power supply; when we're in a permanent position it can be taken indoors.

"Antennas? Well, besides the normal antenna farm on the roof, there is



This is the van used at Field Day 1987 and 1988.

a 40', two-section extension ladder on the roof. It's on rollers so it can be rolled back and a pin inserted, which acts as a fulcrum so you can pull it down with one hand. It's counterbalanced and locks into the bumper of the

van. It's topped with a 12V rotator for the VHF beams if needed, and one can crank it all up to 40 feet, including the mast and the bumper. A tribander could be used if desired.

"As I look around," said Bob, "I guess the only thing lacking is 6M. That comes next. Oh, did I point out the computers?"

The cabinets include storage for sleeping bags and a tent. On a counter sits a coffee maker. Anyone who's ever been out on a communications emergency for long hours will appreciate that the van includes a chemical toilet. The van is stocked with enough food and water for a couple of operators for three days.

Looking around, one sees six operating positions — every rig with a speaker and/or headphones.

It all worked beautifully on Field Day the last two years, when Bob took it into the Malibu mountains to operate with the Sheriff's Disaster Communications Service. They strung a long wire about 500 feet across a canyon and used the antenna tuner.

As we stood outside the vehicle he said, "This also is my home ham shack, parked here in the rear of our place, behind that locked gate and three large dogs. I've this umbilical system outside, so any exterior anten-

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N8DXB/ N8IFG STATION APPEARANCE

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

Jim (N8DXB) and Dorothea (N8IFG) Hoffman, of Kalamazoo, Michigan are our September winners. Here is Jim's description of their console and equipment.

"The console is homemade out of 1/2" plywood, covered with woodgrain formica, and is shaped in a semi-U for easy access to equipment.

"(Left side): IBM PC computer, AEA PK-232 and monitor. (Center):



Kenwood TS-940S/AT, MC-85 mic, JVC tape deck, Heath wattmeters (HF and VHF). (Right side): Yaesu FT-726R, SP-102, rotor control, TE Systems 2M amp, coax switches, power switches, printer. (Under console): Astron RS-35M, isolation transformer. (On top of console): external

speaker, TV, police scanner.

"Antenna system: Cushcraft A-3 multiband beam, KLM 2M beam, KLM 440 beam, Cushcraft 2M beam, 10M vertical, 40 and 80M dipole. Antennas are mounted on top of an HDBX-40 tower with taitwister rotor." □

na can patch to the six operating positions. There are also rotor control cables going to the base of the tower, so I can be at home here in the van and work the 12-element log periodic to chase DX.

"This van is especially at the disposal of the Red Cross, for which I am now the West Coast Chairman of the Communications Advisory Committee and also serve on the National's. We will soon be able to transport up to 14 computers to emergency centers, so arranged that any trained operator can walk into any center and be able to run the system.

"The different centers can talk to each other and to headquarters, either by telephone or radio. We expect, also, to tie it into Packet through ASCII or a modem program. We have permission from the FCC on experimental basis to use Packet on the Red Cross frequency from one chapter to another.

If it works, we'll go nationwide.

"And, very exciting, Ted Harris, N6IIU, of the Palo Alto chapter is able — with portable equipment — to access a certain NASA satellite, as he did after the Mexico City quake."

For now, Bob N6ZH, is hoping for no emergencies, but knowing the odds, he's done his best to be ready.

"Ready to go in 15 minutes!" □

What on earth?

A crash from the ham shack startled everyone in the living room.

"Honey," cried the wife. "What on earth are you doing in there?"

"Nothing now," came a weak reply. "It's done."

—Central Arkansas Radio Emergency Net, Little Rock, AR □

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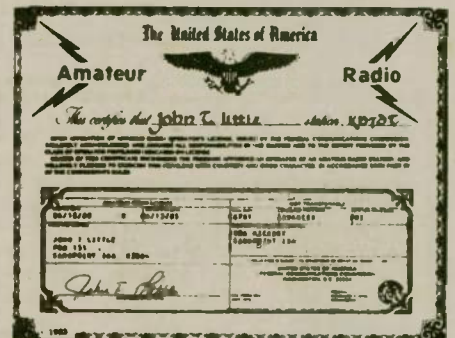
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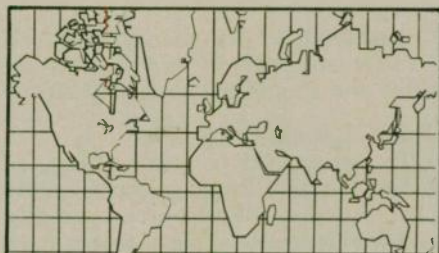
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- 27-28 Aug JARL All Asian DX Contest (CW)
- 03-04 Sept Region 1 Field Day (SSB)
- 04 Sept BFRA Bulgarian DX Contest (CW)
- 10-11 Sept DARC European DX Contest (SSB)
- 17-18 Sept Scandinavian Activity Contest (CW)
- 17-18 Sept CRRL Can-Am Contest
- 24-25 Sept Scandinavian Activity Contest (SSB)

W-100-N

339. KD3CR Daven Kreifeldt

Malyj Vysotskij (4J1FS)

Don't ask us how to pronounce it, but this one was reported to be a new country. Accordingly, it was established as such under the DXCC criteria back in 1970 and only had to be activated to get on the list.

So off we go with Martti Laine, OH2BH, and a couple of other Finnish operators plus a few Soviet operators early in July. Located in Vyborg Bay, the island is leased by the Finnish government and is situated in Soviet territory.

The team came on the air on or about July 8, signing 4J1FS — Finnish Soviet. Most of the activity of

what we heard was 20M SSB, and strictly a split operation. DX-wise, Malyj Vysotskij is no great distance. The object was to break the pileup or just be lucky. As we were only running 100W, we are not sure where we place here, but we did work the station.

Kerguelen Islands (FT2X)

Yves, FT2XE, has been fairly active on the Kerguelen Islands. The best place to look for him is from 1030 UTC on 14.055 MHz. He has also been reported on 7.021 MHz at 1230 UTC and 28.530 MHz at 1015 UTC.

Dany, FT5XB, has also been reported; he was reported around 1200 UTC in Newfoundland on 10M near 28.530 MHz.

Kerguelen, along with Amsterdam Island (FT-Z), is included in the top 100 in the most wanted by DXers. We have never seen Crozet Island (FT-W) included in this listed. We have never worked Crozet Island, although we do have Amsterdam and Kerguelen. We wonder if there are others in the same boat we are.

Liechtenstein (HB0)

Outside that of a couple of visiting DXers, this one has been represented by Gunther, HB0CZS, who operated both modes. On CW, look for Gunther at the very low end of 20M near 14.001 MHz from 0300 UTC, and on SSB between 14.156 and 14.305 MHz after 0400 UTC. The frequency span here should satisfy most classes of licenses for DXers. Gunther has also been known to work 15M as we worked him on 21.250 MHz one evening in early June around 0600 UTC.

Old-timer HB0LL also shows once in awhile. Hugo was worked near 14.222 MHz on the West Coast the last day of May around 0600 UTC.

Micronesia (KC6)

According to the *ARRL Letter* of May 23, the Federated States of Mi-

cronesia is now a sovereign, self-governing nation. Formerly known as the East Caroline Islands, the KC6 licenses granted by the FCC are still valid until the new country issues their own.

Recent activity from this one included KC6JC and KC6IN, both on Ponape. Take a listen on 14.220 MHz after 0300 UTC for KC6JC. He has also been reported on 3.798 MHz at 1000 UTC, 7.163 MHz at 0830 UTC and 14.260 MHz at 1100 UTC. We only have one report for KC6IN and that one was for 75M for the 24th of May. He was reported in Pennsylvania on 3.795 MHz at 1015 UTC.

We have some reports for KC6MA, KC6SI and KC6TM, but as they are not listed in our Callbook we do not know their location. They could be in Belau, formerly the West Caroline Islands.

Luxembourg (LX)

If you need this one on CW, check 20M between 14.017 and 14.026 MHz after 0430 UTC for LX2PA. This station has also been on 15M near 21.007 MHz around 1830 UTC. Also on the same frequency, LX1DA appeared a couple of hours later.

One of the more active stations on SSB is LX1LE. Emile has been reported on 14.213 MHz after 0500 UTC and also on 21.210 MHz around the same time. During the 4th of July weekend, LX1JB was busy on 15M SSB near 21.225 MHz at 1800 UTC.

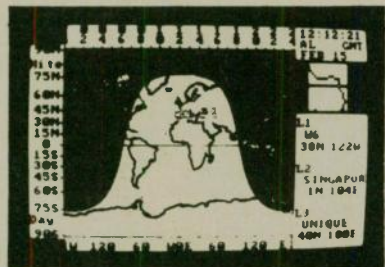
Roger, LX1BI, is another active station in Luxembourg, operating out of Soleuvre. He had been reported between 14.196 and 14.214 MHz, from 0200 UTC, the latter part of May.

More and more activity is showing on RTTY with LX1BY representing Luxembourg. In early June, this station was reported near 14.090 MHz at 0300 UTC. Of course, this isn't the old-time type RTTY where we used surplus Western Union model 15's and 19's. Those were mechanical monsters. And the rest of the electronics conversion equipment had to be homebrew.

Faroe Islands (OY)

Activity from the Faroe Islands has been good recently, with several active calls. Martin, OY7ML, has been busy

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on CW and has been reported on at least three bands. Look for Martin near 14.026 MHz, 21.024 MHz or 28.015 MHz after 2100 UTC. He has also been known to come into the SSB bands as he has been reported near 21.230 MHz around 2000 UTC working Europeans.

On 20M SSB OY9JD has been worked near 14.171 MHz after 0230 UTC. He has also been reported working Canadians on 15M near 21.240 MHz after 2000 UTC.

Other calls from the Faroe Islands include John, OY2J, found working into Ontario on 21.019 MHz at 1830 UTC. Also on CW was OY1R, who was busy in early June near 21.025 MHz around 1500 UTC, working both ends of North America.

Phone man OY9A was busy near 14.195 MHz at 1600 UTC and was also found on 10M near 28.520 MHz at 1500 UTC working the European DXers.

San Marino (T7)

We have seen at least four different calls reported recently for this little country. Paul, T77T, has been very active, mostly on 15M. Look for Paul anywhere between 21.240 and 21.324 MHz from 2300 UTC. He has been known to visit 40M as deserving DXers in Ontario grabbed this one at 0200 UTC near 7.084 MHz.

Also very active on 15M, except on CW, is T77C. Listen around 21.022 MHz after 1530 UTC for this one.

On RTTY a station signing T77J is active near 21.090 MHz from 1530 UTC, as reported in *The DX Bulletin*. *DX News Sheet* reports 10M activity from T77G, who was worked near 28.553 MHz at 0900 UTC. With the improving band conditions, this latter report may soon become a reality for North Americans.

Turkoman (UH)

During this last reporting period we have seen only three calls for this Soviet republic. On 15M, UH8AAX was reported on both modes. Check 21.313 or 21.056 MHz from 0230 UTC.

The other two reported were on 20M the last day of May, both on CW. UH8CA was worked from the West Coast on 14.005 MHz at 0150 UTC, and UH8BAF was worked from the



Man and his dog, X-ray? Meet South American QSL manager, Mario Raul Andraca, LU8DPM, with friends, Ljepa and Manitas. The photo was taken during an April sunset in front of Mario's home in Buenos Aires, Argentina. (Photo courtesy of LU8DPM)

East Coast on 14.026 MHz at 0100 UTC.

Togo (5V7)

Denny Washer, 5V7WD, writes from the "Shack of the Togo Witch Doctor." In 1986, Denny and his XYL Diane moved from Kpalime to their present location in Kara. Denny writes:

"We are currently set up on 80-10 (including WARC) and looking forward to the first 160M contact. We maintain an informal weekday roundtable with our QSL manager, WB4-LFM, on 21.325 MHz at 1245 UTC. All are invited."

Denny reports that the ham population is not large, and includes Steve, 5V7SA, and Denny's younger brother, Ron, 5V7RW. However, there are quite a few transient operators, especially from Europe. Denny and Diane expect to remain in Kara through the remainder of this year and then will return to the United States, where he will sign N4EXB.

Denny has also been active on 20M, according to the reports, as he has been found near 14.222 MHz around 0600 UTC. Other calls we have seen activity from include 5V7TM, who was reported on 14.226 MHz at 2100 UTC on June 21 working the East

Coast. We have also seen a report of a 5V5TS, although we feel this was an error and should have read SV5TS.

From Russia with love

Things seem to be looking better as far as Amateur Radio goes concerning the Soviets. Worldradio recently received a couple of items direct from Russian amateurs.

Sergej Levchenko, RA9LA, informs us that he has sent all QSL cards for his UV100 DXpedition via the bureau. He reported that a total of 54,000 cards have been sent. Sergej operated from Heyss Island (Franz Josef Land) from December 1985 through February 1987.

If, after a period of time, your UV100 card does not arrive from the bureau, we suggest you contact Sergej at P.O. Box 44, 627400 Ishim 6, USSR.

Vladimir Zhukow, RA3YA, informs us that he is the QSL manager for 4K0D, UA0BEZ and UA0BAM. 4K0D is the Soviet Drifting Station "North Pole 88" operated by Pawl Popow and is in CQ Zone 40.

UA0BEZ is operated by Evgeny Romashyn and is on Archipelago Severnaya Zemlya (Golomyanny Island). He also will operate as UA0BEZ/1 from Franz Joseph Land (Heyss Island) from September 1988 through October 1989.

On Cape Chelyuskin we have UA0BAM, operated by Alex Nagornyak, who should be there through 1989.

If you wish to QSL direct to Vlado, you may send your requests to P.O. Box 73, Bryansk 241000, USSR. If you wish a direct reply, please include 1 IRC; otherwise your card will return via the bureau. Do not send green stamps!

Albania (ZA)

All of the leading DX newsletters have reported the activity of a ZA0RA

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(also signing ZA88RA). He was reported in early June and was active on CW on 20 and 15M. He gave his name as Ramiz and claimed to have worked for Radio Tirana.

Many DXers did work this one, and most of us probably agree, Ramiz is none other than Tirane Slim! But who knows.

DX Prediction

Maximum Usable Frequency from West Coast, Central U.S., and East Coast (courtesy of Engineering Systems Incorporated, Box 939, Vienna, VA 22180).

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

SEPTEMBER 1988 WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	(11)	14	20	(9)	17
12	(22)	13	17	19	19
14	30	15	19	25	31
16	34	13	17	26	39
18	32	(12)	(18)	23	43
20	26	27	32	19	43
22	22	33	40	(11)	43
24	19	36	44	(10)	32
2	17	34	44	9	26
4	15	28	41	12	22
6	(13)	18	28	(11)	19
8	(12)	15	23	(10)	17

CENTRAL USA

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	15	(10)	19	(9)	16
10	25	10	17	19	19
12	37	13	19	25	31
14	42	(11)	18	28	38
16	42	(10)	(16)	26	41
18	31	(10)	(18)	24	43
20	26	22	33	17	43
22	22	27	40	(11)	35
24	19	26	44	10	28
2	16	21	39	9	24
4	18	13	27	11	20
6	16	(11)	23	10	17

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	16	(10)	19	10	16
9	23	9	17	18	19
11	36	13	19	25	30
13	42	(12)	19	28	36
15	42	(10)	(17)	28	40
17	41	(10)	(15)	27	42
19	28	18	27	24	43
21	23	25	38	16	42
23	20	26	43	11	32
1	17	21	38	10	26
3	18	12	27	9	22
5	17	(11)	22	10	19

Reg Tibbetts, W6ITH, refers us to an article in *The New York Times*, dated June 22, 1988. With the title "A Hint of Change in the Albanian Air," things could very well be going in the right direction. It might be worth reading. Check your local library, or send an SASE to N6JM.

Cayman Islands (ZF)

At the general meeting of the Cayman Amateur Radio Society last February, Roger Corbin, ZF1RC, was elected president, with Bruce Miller, ZF2KN, elected secretary-treasurer and QSL Manager.

The society also informs us that the

12, 17 and 30M WARC bands are not authorized for use in the Cayman Islands. In addition, operation on 160M is limited in power to 75W for Class A operators and 20W for Class B operators.

QSL information

Kappy Kaplan, WA4WTG, QSL manager for several DX stations, now has a new location. His new address is 718 SE, 3 Lane, Dania, FL 33004. The calls he handles include: FY7AE, K7NJ/4X, TJ1BF, V2AK, ZF2IB/4X, ZF2GE, ZP5KS, 4Z4DX, 4Z4HF, 4Z4LF, 4X4NJ, 4X4UF, 4X4VB, (please turn to page 34)

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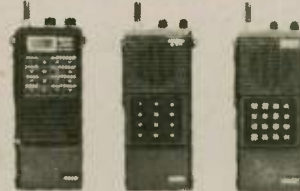
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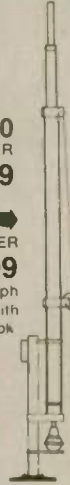
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DX World

(continued from page 31)

4X2BYB, 4X6BYB, 5Z4RH, 6Y5MC, 6Y5RL, 8P6AH, 8P6BN, 8P6IB, 8P0A, P29RY and 4X4FF/5N4.

John Schwall, W8JAQ, informs us that he has received several cards for C31IU, a call that was active on several bands during the ARRL CW DX Competition last February. This was apparently a pirated call. Mike, K9MW, who operated with that call from 1975 through 1983, is now residing in The Netherlands. In addition, John reports, the pirate also gave W9FSS as the QSL manager, who has been a Silent Key since 1985. However, if you did work C31IU during the period Mike was in Andorra (1975 to 1983), you may send your QSL request to W8JQ.

Dave Espasandin, KZ8Y, informs us that he is not the QSL manager for Noel, 4S7AVR/8Q7AV. Cards for Noel should be sent to him direct at 15/2 Balahenmulla Lane, Colombo 6, SRI LANKA. This was an error with the Callbook. However, Dave does handle QSL requests for 4S7NMR, 8Q7AZ (from 1984), N8DCJ/8P6 and 8P6G (1973 and 1984 only).



If you look carefully below the 6APW you will see the call NC-5CJ, which we discussed in our June column. This shack was the high school-aged amateur, Jerry Faas, taken by his dad in 1928. The certificate on the wall is an ARRL Official Relay Station #239, dated May 2, 1928, and signed by Don Wallace, W6AM, Section Communications Manager. F.E. Handy was the Communications Manager at ARRL Headquarters in Hartford — a position Ed held until his retirement in the late 1960's.

Antique QSL Department

Here is another one of those W9UX/W9PST cards submitted by Bob Truhlar, W9LNQ. Back on September 5, 1936, Roy worked ZT6X of



Johannesburg on 20M. Roy received an RST of 579 at 1310 GMT. The card is printed in blue with red call letters.

Jerry Faas, W6KMI, took notice of the old QSL card in the June issue. The NC-5CJ card rang a bell and Jerry started to look through his old cards. He couldn't find the card, but what he did find was a photo of his 1928 shack which showed the old card on the wall!

In those days Jerry was using a tuned grid and tuned plate Armstrong circuit with a pair of UV-210 tubes in push-pull. The antenna was an end-fed Zepp on 40M. The receiver was a UV-299 regenerative detector. The frequency for the transmitter was found by using an absorption-type wave meter sitting on top of the receiver.

Jerry was first licensed as 6APW. When he got married in 1931 he forgot to renew and had to take the exam over again some time around 1933. He was then issued the call W6KMI.

QSL routes

A22BW	-DK3KD	EE7ITU	-EA7TH
A92EM	-G3XHZ	EF5VFA	-EA5FDO
AY4F	-LU4FD	EX0AU	-RA3AU
BV6IA	-W3HNC	FH5EF	-F6EZY
C21RK	-JJ1TZK	PH5EK	-F6EZY
C30LFC	-OH3TQ	F05HL	-WB6FJ
C30LFD	-OH3TQ	PP/KA1HY	-K1RH
D68MG	-W3DJZ	FT2XE	-F6EYS
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EE1ITU	-EA1SY	FT0ZB	-F6EYS



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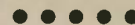
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GB8WP	-G0GWY	VP2EMA	-KV4AM	A4XKP	-P.O. Box 981, Muscat, OMAN		
GW4UOL/A	-G4UOL	VP2MU	-W6AB	GB76STT	-P.O. Box 293, Glasgow, SCOTLAND		
H44X	-H44SI		(See Note 4)	HI2UD	-P.O. Box 88, Santo Domingo, DOMINICAN REPUBLIC		
HB0/A15P	-W3HMK	VR6ID	-KB6ISL	HP1XVH	-P.O. Box 67413, Eldorado, Panama City 6A, PANAMA		
HB0/DA1WA	-DA1WA	WY6L/KH3	-K5DAS	P29ZL	-P.O. Box 479, Tabubil, Western Province, PAPAUA NEW GUINEA		
HG4WSD	-HA4XX	Y88DC	-Y41ZH	P43WLP	-P.O. Box 2035, St. Nickolas, ARUBA		
HG5A	-HA7RY	Y88PDF	-Y31HB	TF3LB	-P.O. Box 1058, Reykjavik, ICELAND		
HG7B	-HA0DU	YE2ZE	-YC2OK	TJ1DL	-Peter Spath, B.P. 427, Bafia, CAMEROON		
IP1ARI	-I2CZ	YE9ZS	-YB9VGZ	UV100	-Sergej Levichenko, P.O. Box 44, 627400 Ishim 6, USSR		
J42CH	-SV2TS	YK1QC	-YU4EXY	VR6MW	-Meralda Warren, Pitcairn Island, SOUTH PACIFIC OCEAN		
JA1XG1/JD1	-JA Bureau	ZK1QC	-K9QVB	5Z4LL	-P.O. Box 14425, Nairobi, KENYA		
JW0B	-LA2HFA	ZK3YY	-JA6QFC				
JW/WA4ZEL	-WD4ARY		(See Note 5)				
KC6SI	-JA7AGO	ZZ8ADV	-FW8DP				
KC6TM	-JA7AGO	3A2EE	-F9RM				
KH6LW/KH7	-KH6JEB	3A/DK6AS	-DJ8MT				
LZ9A	-LZ2KTS	3B9FR	-F6PNU				
OH0MM	-OH2MM	3C1JPS	-ON7GV				
OX3GH	-WA2TTI	4C2JTW	-AA5B				
PJ0R	-N5RM	4K0D	-RA3YA				
RA0BB	-RB5CB		(See Note 2)				
RL1P	-RL8PYL	4K0DC	-UA3AOC				
RS3A	-UZ3AXX	4N4AA	-YU4SBH				
SV0FG	-KA6UUS	4S0AA	-4S7PVR				
T20AA	-N4FJL	4U0UN	-NA2K				
TE4T	-TI4SU	4W0EA	-EA6CTP				
TJ2LTA	-F6FNU	4X0V	-4X4SK				
TJ1DK	-DL4FBC	5N9GM	-I8XIU				
TN4NW	-AL7EL	6U7AN	-KN125				
TP0CE	(See Note 1)	5W1GP	-JA6QFC				
TQ6JUN	-F5AM		(See Note 5)				
TX9IPA	-F1DGS	5X5SP	-DK2RZ				
UA0BAM	-RA3YA	6Y6A	-6Y5HN				
	(See Note 2)	7S5BE	-SK5BE				
UA0BEZ	-RA3YA	8A2ITU	-YB2BNJ				
	(See Note 2)	8A7ITU	-YB7BC				
UM9MWA/	-UM8MDX	8A0ITU	-YC0PHG				
UM5P	(See Note 3)	9H1IE	-PA0BEA				

Washington DX Club (K7ZR), Salt City DX Association (KB2G), Greater Milwaukee DX Association (NK9G), Northern Arizona DX Association (KR7Y), Southern California DX Club (NK6A), Redwood Empire DX Association (VP2ML), *The Long Island DX Bulletin* (W2IYX), *Inside DX* (N2AU), *QRZ DX* (W5KNE), *The DX Bulletin* (VP2ML), *Long Skip* (VE3IPR), and *DX News Sheet* (G4DYO).

Every summer, June through August, the Northern California DX Club runs a marathon among the membership to see who can work the most DXCC countries. There are three categories: CW, SSB and mixed. We get involved with this one and do manage to pick up something new in the effort. It's also a lot of fun. We wonder how many other DX clubs get involved in such an event.



W-100-N winners will be continued next month.

Notes

1. CW contacts with TP0CE go to F2CW; SSB to F6FQK.
2. If you care to send your card direct rather than to Box 88, you may send it via Vlado I, Zhukow, RA3YA, P.O. Box 73, 241000 Bryansk, USSR.
3. Direct route for this one (other than Box 88) goes to P.O. Box 240, Frunze, Kirghiz 720055, USSR. Please include 2 IRC's.
4. Callbook address for W6AB is incorrect. Use P.O. Box 5117, Vandenberg AFB, CA 93437.
5. Or you may send your cards direct to P.O. Box 1625, Apia, WESTERN SAMOA.

Contributors for this issue include KZ8Y, W5ONL, W8JAQ, W9LNQ, W6IZL, W6ITH, W6KMI, WA4-WTG, RA3YA, RA9LA, ZF2KN, VK6NE, 5V7WD, LU8DPM, Western

ANNOUNCING!

The 1989 Worldradio DXathon

ELIGIBILITY — All licensed Amateur Radio operators, worldwide.
DATES — Start: 0000 1 January, 1989. End: 2359 31 December, 1989.

Exceptions: No contacts made during the time frame of any DX Contest will be valid. This is to be a prestigious award program, made so by its difficulty.

BANDS — 80, 40, 20, 15, 10 meter bands, plus satellite/moonbounce frequencies.

MODES — Phone, CW, Digital (includes RTTY, AMTOR, packet), Visual (SSTV), and Satellite (includes moonbounce).

Five Bands/Five Modes equals DXathon.

CATEGORIES — There is only one category — Single Operator.

OBJECTIVE — Contact as many NATIONS on as many modes as possible. A NATION is defined as an entity with enough sovereignty to issue its own postage stamps.

VALID CONTACTS — A NATION may be worked but once, on each mode, regardless of the frequency band. This is not a five-band per mode contest.

SCORING — Final score will be the total number of NATIONS contacted on the various modes. Contact with your own NATION does not count. The highest possible score would be about 900.

SUBMISSIONS — Entries must be received by 1 February, 1990. No QSL cards need be submitted or received by the entrants. Send signed log extracts to:

WORLD RADIO
2120 - 28th Street

Sacramento, CA 95818 USA

Award winning logs will be published in *Worldradio*. Decisions of the DXathon committee will be final. The committee has the right to disqualify entries for violation of the letter or the spirit of the rules. By submitting an entry, the participant agrees to abide by the decision of the DXathon Committee.

AWARDS

World Champion — The World Champion will receive a trophy significant enough to honor the effort.

Gold, Silver and Bronze Medals will be awarded for the highest scores on each continent.

Certificates will be awarded for:
A.—The highest score in each NATION.

B.—The highest score in each USA call area.

C.—The top single-band score in A. and B. above.

D.—Technician/Novice scores as warranted.

E.—High scoring 4 mode, 3 mode, 2 mode participants.

Nations with the highest participation (weighted vs. Radio Amateur population) will be honored.

In case of ties, duplicate awards will be made.

A certificate of participation will be awarded each "radio athlete."

It would be appreciated if monthly scores were sent in for publication.

RULE CHANGES — Rules may be modified in time before the contest actually starts to reflect suggestions from potential participants. Send your suggestions to Worldradio at the above address.

Rules may be modified over the years to reflect feedback from the participants. Please send copies of this page to your DX friends.

Field Day operators put to the test

FRANK SPENCER, W6OFP

If ever an Amateur Radio club was prepared for a real emergency, it was the San Gabriel Valley Radio Club, Inc. at 8:05 a.m. PDT on Sunday, June 26. Participating in the annual ARRL Field Day Emergency Preparedness Exercise, the club was "on the air" with five emergency-powered Amateur Radio stations in Memorial Park, Sierra Madre, California when the earth's geophysical forces struck. An earthquake, later measured at 4.5 on the Richter scale, occurred with its epicenter placed only 19 miles due east of the Field Day site.

Denny Thatcher, W6VRK, team captain for the 40-80M code station for Field Day, was in contact with K6QEH in Orange County. "I didn't hear or feel anything," Denny — who was wearing headphones at the time — said later. The same response came from past president Jim Paquin, K6ML, who was in contact with Harvey Coonts, WB6QCJ, in Colorado on 20M phone.

Jack Kessock, W3VOC, sitting on the edge of the grass next to the 10M Novice station, exclaimed, "Doug, did you feel that? That was an earthquake." Doug Kearney, N5LBJ, listening on 28.390 MHz, soon heard other amateurs commenting on the quake.

Ralph Cooper, N6NYK, was operating the 2M Field Day station. "Hey, was that an earthquake?" he heard one amateur ask on the 2M band. "Yes, it was," came the response from another voice. "You guys must be kidding," said another voice, "This is Field Day."

Obviously no one expected Mother Nature to accommodate Southern Cal-



These members of the San Gabriel Valley Radio Club, who participated in Field Day, got a taste of the "real thing" when an earthquake struck Southern California on June 26.

ifornia's Amateur Radio operators with an earthquake on Field Day.

Richard Kuepper, WA6RWS, the newly elected club president sitting next to Ralph, knew exactly what to do. On his 2M hand-held transceiver, he punched in 145.46 MHz — the frequency of the famous "Buzzard Peak" repeater, the key repeater for the Southern California Quake Reporting Network. By 8:06 a.m., reports were rapidly being transmitted through the repeater.

The 8:05 a.m. earthquake automatically activated alarms in the repeater and in the home stations of the participating amateurs, thereby placing the Quake Reporting Network in immediate operation.

Over 100 "felt" reports were received and recorded on tape by way of the repeater. These "felt" reports originated from Amateur Radio operators participating in the network from the Southern California counties of

Los Angeles, San Bernardino, Riverside, Orange, San Diego and Ventura. (The Buzzard Peak repeater operates on battery power and is not dependent upon any source of commercially available power.)

Dick La Belle, W6FXN, a long-time member of the San Gabriel Valley Radio Club and the originator of the Quake Reporting Network, heard the automatic alarm at his home station. The quake was very strong in East Covina, he later reported.

Dick's measurements indicated a very strong vertical movement of the earth, the same type of wedge fault movement that occurred during the October 1, 1987 Whittier Narrows quake. The movement in the horizontal plane was reported by Dick as being "relatively shallow" (i.e., apparently close to the surface), and reported on the Richter scale as 4.5 at Cal Tech and 4.7 in Golden, Colorado.

"It was not at all difficult to determine the center of the quake," Dick reported. "This is done simply by listening to the operators as they transmit their 'felt' reports through the repeater network." This determination usually can be done within 5 to 10 minutes when a quake occurs within the area of the participating amateur operators.

Fortunately for Southern California, the damage caused by the quake was not major. The participating operators of the club continued with the Field Day exercise. The five emergency-powered stations operating on nine different amateur shortwave bands established two-way radio communications on phone or code with more than (please turn to page 38)

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Visit Your Local RADIO CLUB

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

ALABAMA

Birmingham Amateur Radio Club (BARC). Meets at the American Red Cross Bldg., 2225 3rd Ave. North in downtown Birmingham, AL. 1st and 3rd Thursdays/monthly, 7:30 p.m.

Montgomery Amateur Radio Club (W4AP). Alabama State Trooper Dist. Office. Intersection of Coliseum Blvd. & Federal Dr. Randy Smith, N4LZK, (205) 832-4598. Meets 3rd Monday/monthly, 7:00 p.m.

ALASKA

Arctic Amateur Radio Club. Geophysical Institute West Ridge U of A, P.O. Box 81389, College, AK 99708. 1st Friday/monthly, 7:30 p.m.

ARIZONA

Arizona Amateur Radio Club. Meets 2nd Thursday/monthly, 7:30 p.m. 1510 E. Flower St., Phoenix, AZ. Net: W7IO Information Net every Thurs., 7:00 p.m. W7WGW/R 147.88/147.28 Rptr.

Old Pueblo Radio Club. Meets: 2nd Wednesday/monthly, 7:30 p.m. Location: Franklin Bldg., University of Arizona. N.E. corner of 5th St. & Park.

Tucson Repeater Assoc. P.O. Box 40371, Tucson, AZ 85717-0371. 2nd Sat./monthly, 7:30 p.m., Pima Co. Communicaitons Bldg., 2545 E. Ajo. Net Thurs. 7:30 p.m. 146.28/88 (146.22/82, 147.68/08, 147.70/10-PKT).

CALIFORNIA

Amador County Amateur Radio Club. P.O. Box 1094, Pine Grove, CA 95665. Senior Citizens Center, Jackson, CA. Meets: first Thursday/monthly, 7:30 p.m. WA6WIY Rptr., 146.835, 146.235. Net Tues. 7:30 p.m.

Associated Radio Amateurs of Long Beach, W6RO. P.O. Box 7493, Long Beach, CA 90807. Meets: 1st Friday/monthly, 7:30 p.m. Signal Hill Recreation Hall, 1708 E. Hill St., Signal Hill, CA.

Caltrans RACES Club. Meets at Carrows Restaurant, 1825 10th St., Sacramento, CA, last Friday/monthly, 11:00 a.m. Contact: J.J. West, N6AAD.

Citrus Belt Amateur Radio Club. 777 East Rialto Ave., San Bernardino, CA. P.O. Box 3788, Zip - 92413-3788. Meets: 1st Friday/monthly, 7:00 p.m.

Contra Costa Communications Club WD6EZR/R. P.O. Box 661, San Pablo, CA 94806. Meets 2nd Sunday at 9:00 a.m. Hickory Post Restaurant/Lucky Lanes. For info call Don K6DPQ, (415) 222-2449.

Fresno Amateur Radio Club, Inc. P.O. Box 783, Fresno, CA 93712. Meets 2nd Friday/monthly, 8:00 p.m. Manchester School, 2307 E. Dakota, Fresno, CA. W6TO/R 146.34/94.

Gabilan Amateur Radio Club GARC. P.O. Box 2178, Gilroy, CA 95020-2178. Meets: South Valley Jr High School, 385 I.O.O.F. Ave., Gilroy. 2nd Thurs/monthly. 7:30 p.m. Talk-in 145.47/144.87.

Golden Empire Amateur Radio Society (VEC). P.O. Box 508, Chico, CA 95927. Club call W6RHC, Repeater 146.25/85. Meets: 3rd Friday/monthly, 8 p.m. at 1528 Esplanade, Room 110B, Chico.

The Hayward Radio Club, Inc. Fire Station #6, 1401 West Winton Ave., Hayward, CA. Classroom in back of station. Meets: 3rd Friday/monthly, 7:30 p.m. For info contact Mrs. Elfy Griffiths N6DOC.

Hilltop Amateur Mastertie System (HAMS). Informal mtgs. weekly/Mon. 5 p.m. at Shakey's Pizza, 12924 Washington Blvd., Mar Vista, CA. Meets 3rd Mon./monthly at Bicycle Shop Cafe, 12217 W. Wilshire Blvd., W. LA. Info, N6FD 213/823-0767.

Kern River Valley Amateur Radio Club. P.O. Box 2611, Lake Isabella, CA 93240. Meets 4th Sat./monthly at 4 p.m. (Pot Luck). Veteran's Hall, Lake Isabella WA6UYW Rptrs. 146.085/146.685 224.22/Down 1.6 WB6ODZ Rptr.-224.58 Down 1.6 Low-Level.

Lee DeForest Radio Club of Hemet. 1930 Local each Third Thursday at 625 Pico, San Jacinto, CA.

Livermore Amateur Radio Klub (LARK). St. Bartholomew's Episcopal Church. Meets: 3rd Saturday/monthly, 9:30 a.m. Net Mondays 7:00 p.m. 147.12 +. For info call WD6J, (415) 829-5229.

Marin Amateur Radio Club (MARC) W6SG. Box 1231, San Rafael, CA 94901. Meets 1st Fri./8 p.m.; MARC Clubhouse Bldg. 549, HAFB, Novato, CA (415) 883-9789 (Summer exceptions; contact Pete N6IYU, 924-1578). Sunday AM Club at Red Cross, San Rafael.

Moreno Valley Amateur Radio Assoc. P.O. Box 1304, Moreno Valley, CA 92337. Meets: 4th Monday/monthly, 7 p.m., Moreno Valley Unified Sch. Dist. offices, 13911 Parris Blvd., Moreno Valley. Net Tuesdays, 8 p.m. 146.655/055

North Hills Radio Club. P.O. Box 41635, Sacramento, CA 95841. 3rd Tuesday/monthly, 7:30 p.m., Carmichael Elks Lodge, 5631 Cypress Ave., Carmichael, CA. Net 145.19 Thur. at 8:00 p.m.

North Shores ARC. (619-275-1495) So. Clairemont Recreation Center, 3605 Clairemont Dr., San Diego, CA. 1st Tuesday/monthly, 7:30 p.m. Club net each Monday, 7:00 p.m. 28.485 MHZ.

Radio Amateur Mobile Society. Meets: 2nd Tuesday/monthly, 7:30 p.m. Carmichael Elks Bldg., Cypress and Hackberry, Carmichael, CA. Net Saturday a.m. 224.84 8:30/146.79 9:00.

River City A.R.C.S. Meets: 1st Tuesday/monthly, 7 p.m. SMUD Bldg., Room B & C, Elkhorn & Don Julio, Sacramento, CA. For info: (916) 483-3293.

Sacramento Amateur Radio Club. Contact: Gary Bryant, KB6K22, (916) 646-1171. Meets Sacramento Blood Bank, 32nd St. & Stockton Blvd., Sacramento, CA, 2nd Wednesday/monthly, 7 p.m.

Sacramento "Old Timers" Ham Radio Brkfst Club. Meets 2nd Wednesday/monthly, 8 a.m., Carrows Restaurant near Watt Ave. and Hwy 80 exit. For info contact Paul Wolf, W6RPL (916) 331-1830.

San Gabriel Valley ARC. Bowling Green Clubhouse, 405 S. Santa Anita Ave., Arcadia, CA 91006. Meets: 1st Tuesday/monthly, 7:30 p.m., except Dec. W6QFK, Repeater 147.165/765.

San Mateo Radio Club. Beresford Park Recreation Center, 28th Ave. and Alameda de las Pulgas, San Mateo, CA 94403. 3rd Friday/monthly, 7:30 p.m.

Santa Clara Valley Rptr. Society (SCVRS). P.O. Box 3085, Sunnyvale, CA 95087. (408) 247-2877. 146.76(-600 kHz), 224.26(-1.6 MHz), 444.60(+5 MHz). 2 meters/220 net Mon. 9 p.m. Mtgs.-3rd Fridays.

Shasta Cascade Amateur Radio Society (SCARS). P.O. Box 664, Anderson, CA 96007. Meets: 3rd Wed./monthly, 7 p.m. at the C.D.F. Conf. Rm., Grape St., near Parkview Ave., Redding, CA. Net 146.64 Wed., 8 p.m.

Sierra Foothills Amateur Radio Club. P.O. Box 3262, Auburn, CA 95604. Office of Education Bldg., 360 Nevada St., Auburn, CA. Meets: 2nd Friday/monthly, 7:30 p.m. Nets: Tues. 7:30 p.m. 28.443 MHz. Thurs. 7:30 p.m. Rptr. 145.43/223.86.

Solano County Amateur Radio Society. P.O. Box 457, Fairfield, CA 94533. Meets: 3rd Wed. 7 p.m., Vanden High School. 441.150 + 5 (Remote 145.69 simplex) PL 77Hz, (707) 448-1461.

Sonoma County Radio Amateurs, Inc. Meets 1st Wednesday/monthly (except Dec.) at the Emergency Operations Center (behind the County Courthouse), P.O. Box 116, Santa Rosa, CA 95402.

South Bay Amateur Radio Association. Los Cerritos Community Center, Fremont, CA. Dick Melcher, WA6MDI. Call-in 147.615/015. Meets: 3rd Wednesday/monthly, 7:30 p.m.

Southern Calif. Amateur Transmitting Society (SCATS). P.O. Box 1770, Covina, CA 91722. Meets: Cortez School, 2226 E. Rio Verde Dr., West Covina, CA 91791. 1st Monday/monthly, 7 p.m. (coffee 6:30 p.m.)

Southern California Six Meter Club. P.O. Box 448, Cypress, CA 90630. USB Net Tue., 8:00 p.m., 50.150. FM Rpt. Net Thurs., 8:00 p.m., 52.28/88. FM Smpix Net Thur., 9:00 p.m., 50.300.

Stockton-Delta Amateur Radio Club Inc. Meets: 2nd Thursday/monthly, 7:30 p.m., American Red Cross Bldg., 747 No. Pershing Ave., Stockton, CA. Rptr. 147.165/765. Net Wednesdays, 8 p.m.

Tri-County Amateur Radio Assoc. P.O. Box 142, Pomona, CA 91769. Meets: 2nd Monday/monthly, 7:30 p.m. Pomona First Federal S&L (basement), 399 N. Garey, Pomona, CA.

The Trinity County ARC. P.O. Box 2283, Weaverville, CA 96093. Meets 2nd Wednesday/monthly, at the CD Hall in Weaverville, 7:30 p.m. WD6FHX Rptr. 146.13/73.

Victor Valley Amateur Radio Club. P.O. Box 869, Victorville, CA 92392. Meets: Victor School Board Room, 6th & "A". 2nd Tuesday/monthly, 7:30 p.m. WA6EFW Rptr. 146.34/146.94.

West Coast Amateur Radio Club. Fountain Valley School. Talbert/Bushard. Fountain Valley, CA. Meets 3rd Thursday/monthly. 145.44-4Z.

Yucaipa Valley Amateur Radio Club (YVARC). Gibraltar Saving's Community Room, 34880 Yucaipa Blvd., Yucaipa, CA 92399. Pres: Jack Prather W6KJP (714) 797-1276. Meets: 3rd Monday/monthly, 7:30 p.m.

CONNECTICUT

Tri-City ARC. Groton Public Library, Route 117, Groton, CT 06340. 2nd Tuesday/monthly, 7:30 p.m.

DELAWARE

Delaware Valley Radio Assoc. (DVRA). Our Lady of Good Counsel Church. 137 W. Upper Ferry Rd., West Trenton, NJ 08628. Meets: 2nd Wednesday/monthly, 8:00 p.m.

FLORIDA

Indian River ARC, Inc. (IRARC). 597 Capri Rd., Cocoa Beach, FL 32931. Martin Andersen Senior Center, 1025 S. Florida Ave., Rockledge, FL. Meets: 1st Thurs./monthly, 7:30 p.m.

Sarasota Amateur Radio Ass'n, Inc. Meets: 3rd Tues./monthly, 8 p.m. on the 6th floor (board rm.) of the County Admin. Bldg., corner of 301 & Ringling Blvd. Club Rptr. WA1E, freq. 146.91/31, open to all. Phone patch *Up #Down. Welcome.

South Brevard Amateur Radio Club. P.O. Box 2205, Melbourne, FL 32902. Meets 1st Tuesday/monthly, 7 p.m., Melbourne Library, 2275 S. Babcock St., Melbourne, FL.

HAWAII

Big Island Amateur Radio Club. P.O. Box 1938, Hilo, HI 96721-1938. Meets: 2nd Tuesday/monthly, 7:00 p.m., Heilo Auditorium, 1200 Kilauea, Hilo. Talk-in on 146.76(-).

ILLINOIS

Bolingbrook Amateur Radio Society. P.O. Box 1429, Bolingbrook, IL 60439-7429. (312) 759-4747. Call in 147.93/33. Meets: 3rd Monday/monthly, 7:30 p.m.

Chicago Suburban Radio Assoc.

(CSRA). P.O. Box 88, Lyons, IL 60534. Meets 2nd Wed./monthly, 8 p.m. Community Rm. Clyde Federal Savings & Loan Assoc., 7222 W. Cermak Rd., North Riverside, IL.

Elgin Amateur Radio Society. P.O. Box 1351, Elgin, IL 60120. (WB9EEA President). Meets in EOC Rm. of Elgin Municipal Bldg. 2nd Friday/monthly, 8:00 p.m.

Fox River Radio League. Valley National Bank, Lower Level, Northgate Shopping Ctr. & RT. 31, Aurora, IL. (312) 584-4925 for more info. Meets: 2nd Tuesday/monthly, 7:30 p.m.

North Shore Radio Club. Meets: 2nd Monday/monthly. Net 8 p.m. Tues. Karger Center, 1850 Green Bay, Highland Pk, IL. WB9FRM Rptr. 147.345 + 600 (PL 1B). Info: NSRC, P.O. Box 1066, Highland Pk., IL 60035.

Six Meter Club of Chicago K9ONA. Bank of Lyons, Lower Level, 8601 West Ogden Ave., Lyons, IL. 2nd Friday/monthly, 7:30 p.m. Club Rptrs: 146.37/97, 448.30/444.30.

INDIANA

Fort Wayne Radio Club. James Wolf, KR9U, P.O. Box 15127, Fort Wayne, IN 46885. The Salem Church. Meets: 3rd Friday/monthly, 7:30 p.m.

Northeastern Indiana Amateur Radio Club. P.O. Box 745, Auburn, Indiana 46706. Meets: 2nd Tuesday/monthly, 7:00 p.m. at members homes. Daily traffic net at 2300Z on 147.96/36 MHz, the WB9VDK rptr.

MARYLAND

The Peninsula Radio Operators Society (PROS). Family oriented activities, training and exams held throughout the year. PROS Rptrs. 146.925 and 146.625. PROS, P.O. Box 2315, Salisbury, MD 21801.

MICHIGAN

Hazel Park Amateur Radio Club. Hoover Elementary School-Hazel Park, P.O. Box 368, Hazel Park, MI 48030. 2nd Wed./monthly, 7:30 p.m. Sept. thru May. 147.51 Simplex Call-In.

Oak Park Amateur Radio Club. Oak Park Community Center, 14300 Oak Park Blvd. (same as 9½ Mile Rd., west of Coolidge). Oak Park, MI 48237. 2nd Monday/monthly, 7:45 p.m. Talk-in on our 224.86 Mhz or 146.64 Mhz.

MISSOURI

PHD Amateur Radio Assn. Inc. P.O. Box 11, Liberty, MO 64068. Meets last Tuesday/monthly, 7 p.m. Red Cross Bldg. (816) 781-7313, Volunteer Examiner Coordinator.

NEBRASKA

Pioneer Amateur Radio Club (PARC). P.O. Box 445, Fremont, NE 68025. Meets: 4th Friday/monthly, 7:30 p.m. at Keene Memorial Library, 1030 North Broad. Wed. ARES net 146.67 19:30 CDT/19:00 CST.

NEVADA

Frontier Amateur Radio Society (FARS). Meets: 1st Friday at Fly-N-Chef, 7 p.m., Scenic Airlines Terminal, McCarran Airport, Las Vegas, NV. Net Mondays 7:30 p.m. 145.39. Info: Bob Herrell, WB5PTO, 641-6682.

Las Vegas Radio Amateur Club (LVRAC). Meets: 2nd Tuesday/monthly at 7 p.m., Nevada Power Building, Wengert Rm., 6226 W. Sahara Ave. (Near Jones). Net Tuesdays 8:00 p.m. on 146.94 MHz. Info: Call Lyle at 456-9510.

Nevada Amateur Radio Assoc. (NARA) 2333 Rodney Cir., Reno, NV 89509. Meets: 3rd Tuesday/monthly, 7:00 p.m. at First Federal Savings & Loan Bldg., 2330 So. Virginia St., Reno, NV.

NEW HAMPSHIRE

Great Bay Radio Assn., WB1CAG. P.O. Box 911, Dover NH 03820. (603) 742-0130/755-2600. 2nd Sunday/monthly, 7:00 p.m. Dover Dist. Court. Talk-in 147.57.

NEW JERSEY

Bayonne Emergency Mgt. ARC (BEMARC). 16th St. & Ave. A Firehouse, Bayonne, New Jersey 07002. Rptrs: 145.430 & 224.280. Meets: 2nd Tuesday/monthly, 7:30 p.m.

Gloucester County Amateur Radio Club (GCARC). Woodbury V.F.W. 1st Wednesday/monthly, 8:00 p.m., Woodbury, NJ. Talk-in 147.18/78. For info call K2JF (609) 589-2318.

South Jersey Radio Assoc. (SJRA). Pennsauken Sr. Hi Sch. at Hylton Rd. & Remington Ave., Pennsauken, NJ 08109. Jan.-Oct. 4th Wed./monthly, 7:30 p.m. Nov.-Dec. 3rd Wed. due to Thanksgiving and Christmas. Talk-in 145.290 rptr. Club call K2AA.

NEW YORK

Communications Club of New Rochelle, NY. Harrison Street Firehouse. Bill McCarren, K2LV, (914) 738-0768. Meets: 1st Monday/monthly, 8 p.m.

Genesee Radio Amateurs (G.R.A.M.). N.Y.S. Civil Defense Center, State St., Batavia, NY 14020. Meets: 3rd Friday/monthly, 7:30 p.m. 147.255 + W2RCX.

Hall of Science Amateur Radio Club. P.O. Box 131, Jamaica, NY 11415. HOSARC, 2nd Tuesday/monthly, Hall of Science Bldg., 47-01 111 St., Flushing Meadow Park at 7:30 p.m. The tristates' only 3-band linked rptr. system 144.300 S/223.600 - 1445.225 -

Radio Club of Junior High School 22 N.Y.C. 111 Columbia St., New York, NY 10002. "At The Core of The Big Apple," QSLs invited. For info contact WB2JKJ and "The Crew" learning English thru Ham Radio at (516) 674-4072, 24 hrs.

Westchester Amateur Radio Assoc. (WARA). Scarsdale Village Hall, Scarsdale, New York. Meets: 1st Wednesday/monthly, 8:00 p.m. For info call B. Dubbs, Pres. (WA2FSR). (914) 725-1191.

NORTH CAROLINA

Raleigh Amateur Radio Society, Inc. (RARS). P.O. Box 17124, Raleigh, NC 27619. Meets: 1st Wed./monthly, 7:30 p.m., First Presb. Church. Club net daily, 8 p.m. on RARS 04/64, W4DW. Annual Hamfest, 2nd Sunday in April.

NORTH DAKOTA

Fox Amateur Radio Club. United Hospital, Grand Forks, N.D. Call-in 34/94. Meets last Tuesday/monthly, 7:30 p.m.

OHIO

Amateur Radio Fellowship (ARF). N8HUN, Linda Delugach, Sec. P.O. Box 2486, Streetsboro, OH 44241. Meets: 1st Sat./monthly at Kent Wally Waffle. KA8PHO rptr. 147.675/075.

Ashtabula County ARC. Ken Stenback, AIBS (964-7316). County Justice Center, Jefferson, OH. 3rd Tuesday/monthly, 7:30 p.m. County Rptr., 146.715.

Northern Ohio Amateur Radio Society (NOARS). K8KRG/WB8JBM, P.O. Box 354, Lorain, OH 44052. Meets 3rd Mondays/monthly, 8 p.m. at Gargus Hall. Info: George, W8ANM, (216) 933-2841. Ohio's largest general interest club.

OREGON

Salem Amateur Radio Club (SARC). Northwest Natural Gas Auditorium, 3123 Broadway N.E., Salem, Oregon 97303. Talk-in 146.86. Meets 4th Tuesday/monthly, 7:30 p.m.

PENNSYLVANIA

Butler County Amateur Radio Assoc. Meets: 1st Tuesday/monthly, 7:30 p.m. at Red Cross Bldg., 312 Mercer St., Butler, PA 16001. Call-in 147.96/36

Mercer County Amateur Radio Club W3LIF. P.O. Box 996, Sharon, PA 16146. Meets: 4th Tuesday/monthly at 7:30 p.m. at Shenango Valley Medical Center, Farrell, PA. Net, Thursdays 8:45 p.m. on 147.75/15 W3LIF/R.

Warminster Amateur Radio Club. P.O. Box 113, Warminster, PA 18974. Meets: 1st Wednesday/monthly, 8:00 p.m. at St. Johns Lutheran Church, Hatboro, PA. Net Wednesdays, 8:30, 147.09/69.

VIRGINIA

Southern Peninsula Amateur Radio Klub (SPARK). Meets: 1st and 3rd Tuesdays, Salvation Army Community Bldg., Hampton, VA. Operates 148/13 147/73 Rptr., VEC Information (804) 851-5573.

WEST VIRGINIA

Jackson County Amateur Radio Club. D. Geneal Bailey, NK8P, Sec.-Treas. 113 Winters Dr., Ripley, WV 25271. First National Bank of Ripley. Meets: 1st Thursday/monthly, 7:30 p.m.

WASHINGTON

Mike & Key ARC K7LED. Good Neighbor Center, 305 So. 43rd Street, Renton, WA 98055. Meets monthly on 3rd St., 10 a.m.

North Seattle Amateur Radio Club (NSARC). Meets: 3rd Tuesday, 7:30 p.m., (except Jul. & Aug.) at the First Interstate Bank, 30th Ave. NE and NE 125th St. (Lake City) in basement. Info: Mike Jr., W7WHT, (206) 282-1438 or P.O. Box 20279, Seattle, WA 98102.

WYOMING

University ARC. 146.01/61 Meets: 1st Tues., 7:30 p.m. Sept.-May. U.W. Physical Plant Bldg., 15th & Lewis St., P.O. Box 3625, Laramie, WY 82070. June-Aug: Bernie Club picnics Wednesdays.

WEST GERMANY

Wiesbaden Amateur Radio Club (WIESARC), DA1WA. Meets 2nd Tuesday/monthly at Stadion Restaurant, Wiesbaden. Steve Hutchins, DA2HS, Box 4205, APO NY 09633. PH: (011) (49)-6725-3462. American and German members.

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

Put to the test

(continued from page 36)

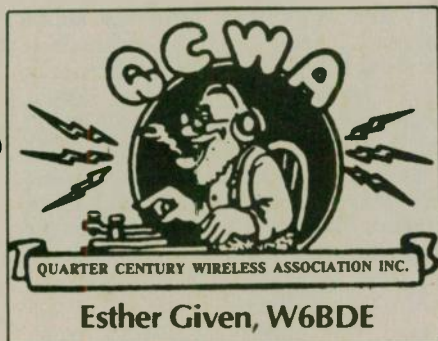
800 other participating Amateur Radio stations throughout the United States and Canada during the 24-hour

period of the exercise.

Over 40 members of the club, along with visiting radio amateurs, assisted in the setting up and operation of the five emergency stations. □

•••••DON'T FORGET•••••

INCLUDE FIRST AND LAST
NAMES with call signs.



The Quarter Century Wireless Association is made up of folks who have been involved in Amateur Radio communication interests for 25 or more years. Many of its members have been around for the full range of electronic development.

Currently, one of the important races in electronic discovery receiving a lot of attention is the development of the superconductor. While the greatest physicists on earth are intrigued in this search, radio amateurs anxiously await the perfection of this marvel and speculate on the effect such a discovery will have on radio communications.

Before semi-conductors entered the scene, physical size and weight of the components necessary to accomplish an electronic result were tremendous. Old-timers often refer to spark gap days and the immense size of the equipment necessary to transmit and receive messages. Today those same ham pioneers boast a globe-reaching transceiver much smaller than a breadbox and a hand-held unit weighing only a few ounces. Those who have experienced the whole span of the electronics evolution hold pleasant memories of the inception of major marvels affecting radio communications.

The promise of future discoveries looming on the electronic horizon are mind-boggling and provide a new challenge to the amateur community. QCWA members welcome the opportunity to meet and share in these exciting developments while continuing to preserve the achievements, expertise and historical contributions of Amateur Radio pioneers.

QCWA Founders' Chapter 46 honored Silent Key member Vi Grossman, W2JZX, at a recent meeting. Chapter President John Weber, KA2IXW, greeted members of the Grossman family present, including Vi's daughter, Betty Jane Harder (Maryland); Vi's son, Ken Grayson; and grandchildren Cecilia and Jay.

The QCWA Meritorious Award was presented to Dr. Harder, recognizing her mother's distinguished service.

The posthumous presentation was made by Harry Dannels, W2HD, a past director of QCWA and friend of the Grossman family. The family then presented the chapter with Vi's Vibroplex, to be placed in the QCWA Museum.

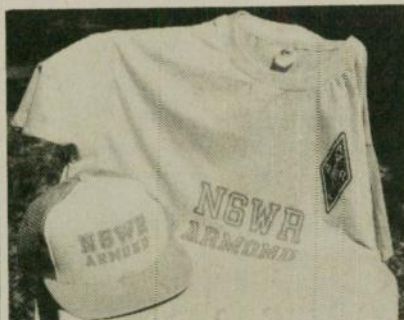
QCWA member Frank Bates, AA6C, was awarded the prestigious U.S. Security Officer of the Year Award. Stationed with the U.S. Embassy in Ankara, Turkey, Bates' responsibilities ranged from protection of U.S. Consulates and Embassies against such intrusions as sophisticated bugging devices to technical deterrence against terrorists. This award is the highest achievement which can be earned by a U.S. security engineering officer in the line of duty.

San Diego Chapter 14, which hosted the 1987 QCWA Convention in southern California, donated \$500 of the proceeds from that activity to the QCWA Memorial Scholarship Fund.



Dr. Betty Jane Harder (left) accepts QCWA Meritorious Award honoring her mother, Vi Grossman, W2JZX. Harry Dannels, W2HD (right), made the posthumous presentation. (Photo by Mark Grossman, K2CON)

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Pomona, CA 91768

California residents add 6% sales tax.

QCWA's 1988 Convention, scheduled for September 21-25, at the McLean Hilton Hotel in McLean, Virginia, is fast approaching. Vic Clark Chapter 91 members are hosts and overall chairman is Jack Kelleher, W4ZC, who reports the formation of 12 committees which are busy planning and arranging for an outstanding event. The principal speaker will be Hugh Turnbull, W3ABC.

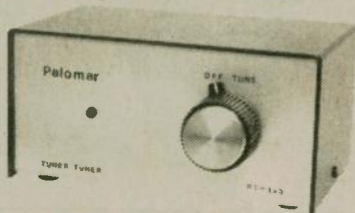
Early registration is recommended, and forms can be found in the spring issue of the QCWA Journal. Further information can be obtained from Chapter 91 secretary, James Wilcox, W4JAP, 3442 Surrey Ln., Falls Church, VA 22042 or registrar Jack Kingman, W4JT, 9207 St. Mark's Place, Fairfax, VA 22031.

Hotel reservations should be made directly with the McLean Hilton, 7920 Jones Branch Dr., McLean, VA 22102; (703) 847-5000. The hotel's cut-off date is September 2. Be sure to indicate "QCWA Convention" to obtain convention room rates.

Scores of educational, historical or pleasurable pastimes await the visitor. The nation's capitol — the White House, a cruise on the Potomac including a visit to Mt. Vernon, the National Art Museum, any or all of the 10 Smithsonian Museums, and tours of NASA or Goddard Space Center are suggested sights to see.

Contact International Visitors' Information Service, 733-15th St. NW, Ste. 300, Washington, D.C.. They will mail general information on area attractions. □

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AWARDS

Awards given for ham assistance in '87 fires

Les Ballinger, WA6EQQ, Electrical Engineering Technician II, Electrical Instrumentation Testing and Research Unit of the Electrical, Corrosion and Engineering Services Branch received two awards at a meeting at the (California) Governor's Office of Emergency Services.

Les provided Amateur Radio emergency communications for the U.S. Forest Service and the California Division of Forestry during the fires of

1987. Les worked on both the Tahoe National Forest and the Stanislaus National Forest fires, spending nearly a week on the Tahoe National Forest fires working at Nevada City USFS office, Auburn CDF office, and the Big Trees fire camp at French Meadows.

Les was responsible for establishing Amateur Radio communications for demobilization of the Stanislaus Complex fire at the Mather/Larson and Hamm fire camps. To do so, he activated the newly formed Caltrans RACES (Radio Amateur Civil Emergency Service) group. Les is also Acting Radio Officer for all of Caltrans.

The two Caltrans RACES members dispatched to the Mather/Larson fire camp were James J. West, N6AAD, and Bob Meyer, K6RTV, who also received awards.

—Caltrans employees newsletter □

Alfredo Emilio Luciano — LU6DJX Award

This award is issued by the CW Group of Argentina (GACW) for all radio amateurs and SWL'S who have worked six different Argentine stations. They will be located in continental, Antarctic or insular territory, and four of them will be GACW members.

Valid contact after 1/VI/77, date that GACW born. Fee is 10 IRC's.

Logs should include call, date, time, mode, RST, band and a photocopy of the QSL's. Send to Grupo Argentino de Radiotelegrafia; P.O. Box 9, 1875 Wilde; Buenos Aires; ARGENTINA.

Five Argentine Islands

This award is issued by the CW Group of Argentina (GACW) for all radio amateurs who have worked five different Argentine stations in islands. Three of them will be valid for DXCC.

Valid contact after 30/III/1927, date of the first transmission from the Argentine station LRT in South Orkney Islands. Mode is A1A (CW) only. Fee is 15 IRC's.

Logs: Send a photocopy of the QSL's received. Example for DXCC: LU-Z Malvinas Islands; LU-Z South Orkney Is.; LU-Z South Shetland Is.; LU-Z San Pedro (Georgia) Is.; LU-Z South Sandwich Is.; and all the Antarctic islands. Example non-DXCC: LU-X Staten Island; LU-X Tierra del Fuego Is.; LU-X Becasse Is.; LU-X Pavon Is.; and all the Argentine Oceanic islands.

Send logs to: Grupo Argentino de Radiotelegrafia; P.O. Box 9, 1875 Wilde; Buenos Aires; ARGENTINA.

Good guys do win

Mike Goldsworthy, KA6EPF

On any given day you can find all the bad news you'd want to hear about our young people. Then every once in a while, you get lucky and you hear about one of the many who didn't make the news but should have.

Let me tell you about one of our own. He has been a ham since 1984 and is an active member of ARES and the Field Team. He has served as secretary of the Santa Barbara ARC. He just graduated from San Marcos High School with outstanding academic credit.

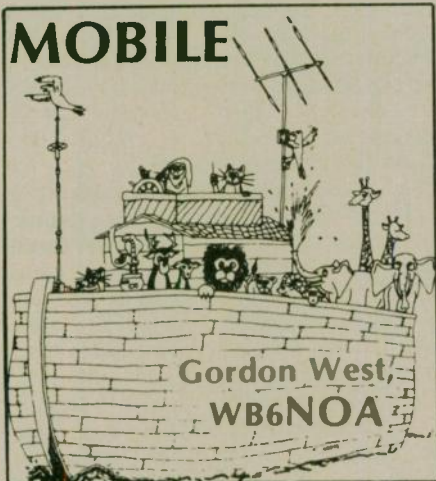
He was chosen in 1983 for the UC Santa Barbara Young Scholars Program, winning second place individual in the MC4 Math Contest. In 1985 he received an Academic Letter, and in '86 was nominated for the NCTE Achievement in Writing Award.

He participated in the UCSB Talented Young Writers Project, and was in the graduation Honor Guard with the highest GPA for a boy in the junior class. He was chosen for the SPICE Science Mentor Program, received a commendation letter from the National Merit Scholarship program, and is a California Scholarship Federation Sealbearer.

Listen to what this young man does for fun: San Marcos Madrigals 1986-87; Drama (five musicals and three plays), 1983-present; Math/Science Club, 1985-present; Drama Club 1983-President; Secretary/Treasurer 1985-86; and an altar boy at his church

May I present my friend, Robert N. Keenan, WU6L, and wish him good luck in his studies in electrical engineering at USC.

— Santa Barbara ARC, CA □



Quiet power inverters

Ten hamfests in five months, and I'm always amazed at what goes on out in the parking lot. Thank you all who took the time to show me your motorhomes, RV's, exotic mobiles, and in Miami, your boat ham stations. It's always fun to see how you take Amateur Radio out on the road, or out on the water.

But why the noisy and smelly generators? Must they run all the time? Just because you're not hooked up to house power on an extension cord, you don't necessarily need to run that 5kW generator just to power your 150W soldering iron. There is a better way.

Solid-state voltage inverters have been remarkably improved over what we remember in the past. How many of you recall the effort it took to extract the 60-cycle vibrator, disassemble it, file the contact points, and then remount it in your old 110VAC-12VDC inverter? It was a nuisance, wasn't it!?

The new breed of inverters no longer uses vibrators — it is completely solid-state, using high voltage switching transistor techniques. No heavy trans-

formers. No hum. Best of all, no noise and no fumes!

Microprocessor techniques now allow the inverter to turn on when it automatically senses an AC load. Prior to turn-on, your inverter is ready to go and will draw less than 1/100th of an amp at rest. As soon as it starts working, its efficiency is anywhere from 60% to a whopping 90%. Not bad — for every 10 amps of 12 volts that you convert to 117V AC, you only lose about 1½ amps in the process. It's certainly better than the old days when the old inverters would draw 5 or 6 amps, just to keep themselves running.

The AC output is also a lot cleaner than the older inverters, but still not without a little bit of hum that seems to transfer over on everything. Have you ever *heard* a hot plate humming? You may with these new inverters that do a remarkable job of smoothing out the pulsating DC to a somewhat smooth AC.

The solid-state inverters run VCR equipment and televisions quite well. There may only be a trace of instability or a jiggly line, now and then. The new breed of inverters also handles nicely the momentary surge loads presented by big drill motors or AC refrigeration motors. A 1000W output inverter may easily absorb 3000 watts of surge from that big ½" drill motor you have.

Power inverters are perfect for running those appliances that you may only use occasionally in your motor vehicle or boat. If you have a generator, you will still need it to give your auxiliary battery or batteries



300W power inverter

their daily charge to run the inverter the rest of the evening. However, you don't need to fire up the big generator for three hours just to run your favorite VCR program at night.

I saw some generators and inverters in use at the recent Dayton HamVention swapmeet. Wasn't Dayton a gem dandy? The DARA group runs one of the smoothest operations I have ever seen, and certainly Dayton should be on your agenda next year.

Anyway, one seller was trying to demonstrate his satellite TV system with a small generator drowning out his every word, and spewing noxious fumes up and down the aisles. This same generator was also creating more RFI than most hand-helds could handle! It was a great spark gap transmitter.

On the other hand, I saw many home appliances operated from inverters at the swapmeet, and one fellow ran his satellite display system for three days continuously and only needed to charge his battery once. This makes good sense for an inverter.

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Amperage draw on batteries

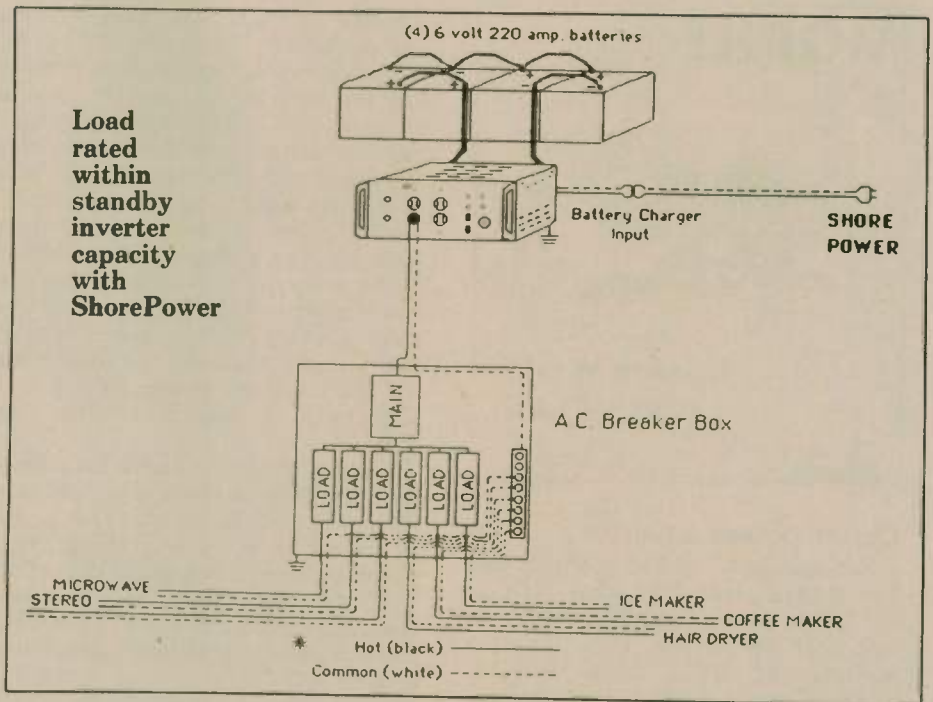
Watts	Nominal battery amperage required
50 watts	5 amps
100 watts	10 amps
500 watts	50 amps
1000 watts	100 amps
1500 watts	150 amps
2000 watts	200 amps
2500 watts	250 amps

NOTE: A. You need a minimum of 200 amps of battery power to achieve the 2000W surge (for starting microwave or large refrigerator).

B. You need a minimum of 250 amps of battery power to achieve the 2500W surge.

You should mount your inverter in an area separate from the engine. It needs to be kept cool for maximum efficiency. Remote control panels allow you to take the innards and put them out of the way. Mount the panel and your AC sockets anywhere convenient.

Ground the metal chassis of the inverter to your vehicle or ship's ground. This minimizes hum and also prevents RFI that's almost non-existent with inverters, except right



Load rated within standby inverter capacity with ShorePower

around their chassis.

Choose an inverter that's rated close to what you plan to draw. If you just want to run VCR's, test equipment and home hi-fi's, 300W output at 117 VAC should be fine. However, if you want to operate a jack hammer or supply power to that 1 hp motor raising a

giant antenna tower, chances are you may need a 1500W inverter. They are priced at less than \$1 for every watt output.

I have a 300W unit myself, and it will run everything but my microwave oven. Incidentally, to calculate how much current is consumed from your batteries, simply divide the estimated power draw, in watts, from your AC appliance by 10. Your complete VCR system, running, may only draw 90W. You could go for many hours before 9 amps continuous current will kill that big motorhome battery.

It's also a good idea to run the inverter off of a pair of deep-cycle marine or motorhome batteries, through a battery isolator, just to insure you don't pull down your starting battery.

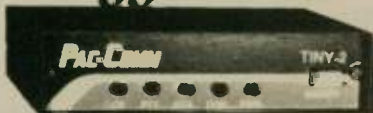
A good, high-powered alternator will quickly recharge your inverter's power source, so you're always ready to have a quick source of AC silently available to that familiar wall plug that may seem quite out of place on a boat, in a motorhome or in your ham mobile station. However, it is very handy when you need 110VAC without a noisy generator. □

Did you know ...

... that Hiram Percy Maxim (ARRL founder) was the youngest to graduate from M.I.T. at the age of 16? —Greater Milwaukee DX Association, WI □

A lightning bolt can be as long as 20 miles. —Central Arkansas Radio Emergency Net

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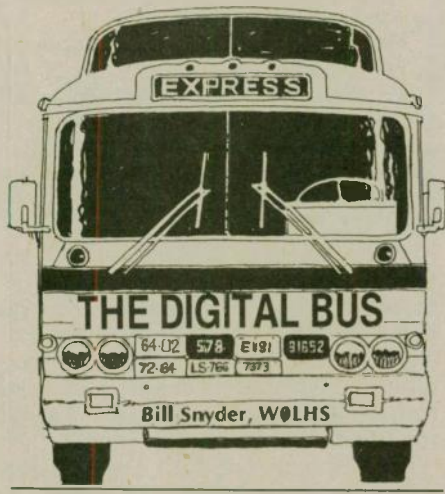
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If you follow this column regularly, you will probably remember two columns ago I told of my experience with the recent KH5 DXpedition to Palmyra Island and Kingman Reef. I missed working both of them even after making the list for Kingman. You've heard my side, now here's Stu Greene, WA2MOE's tale of the RTTY operation on those two very rare spots.

"Kingman Reef," Stu writes, "lies about 450 miles north of Christmas Island (T32), and while the submerged part of the reef extends for miles, the above water portion is only 185 meters long, 10 meters wide and 4 meters over the ocean at low tide.

"The reef consists of tightly packed clam shells and broken pieces of finger coral. It is swept by a continuous northeasterly wind gusting to 50 mph. This required that we use double-wall tents secured to many rebars driven into the reef. Over the tents we stretched tarps which were also secured to rebars. The antennas were also guyed to rebar anchors because of the wind.

"Palmyra lies about 40 miles southeast of Kingman and could be a different continent. It is rainy, full of hermit crabs and violently beautiful!

"Now to RTTY. Gin, JA1ACB, donated a Tono 5000E to the operation. It is a RTTY-dedicated unit divided into two pieces, the keyboard and the control unit. The connections are fairly simple: mike input, earphone jack, power cord, and three jacks in the back of the control unit which Gin thoughtfully had color-coded. His expert technician provided mike connectors for every conceivable radio and labeled them properly. He also carefully labeled the eight buttons on the control unit which had to be depressed to function.

"The damn thing should have worked. A bunch of W6's, led by

W6PQS (Don Simon) and WA6PJR (Dean Showalter), held a training session for me in Los Angeles the day before we left the USA. They also packed the gear tightly. The next time I saw it was when it was dinghied onto Kingman in the rain. Then two of us labored by hauling it up the hill of shells and putting it inside the tent.

"After unpacking it, I read over the instructions and connected it to the Kenwood 440. I tentatively typed "CQ", but nothing happened. The unit wouldn't transmit.

"Fortunately, Charlie (Troutman), W4JXM, and Dean, WA6PJR, caught me on SSB a few hours later and someone telephoned Gin in Japan for instructions. Lo and behold it worked . . . I had goofed.

"Remember, I had never seen a RTTY setup before, and I naively believed that a small pile-up could be worked in a matter of an hour. My lovely and good W6 friends had told me a bold-faced lie: 'RTTY ops are gentlemen . . . if you call one station everyone else will stand by . . . don't worry!' That isn't exactly what happened when I got on the air! RTTY ops are just as hungry as phone and CW DXers and will do anything to get a contact . . . and I don't blame them.

"So, innocently, I tried to work the pile-up. Thank God I got Gin, Charlie, Dean and Hoppy, W3DJZ, in the log. I am grateful for those hams who tried to restore order after self-rage and frustration had set in.

"From my vantage point, I was fighting physical and emotional exhaustion, hunger and frustration. I wanted to work all of you RTTY fans. However, I couldn't understand the repetitive RY's, the repetitive transmission of calls, names, QTH's and equipment. I just wanted a call once, together with an RST and an acknow-

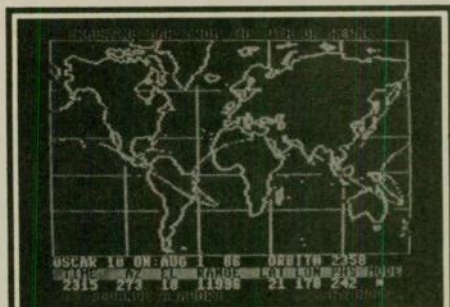
ledgement. In some cases I got a page.

"Some suggestions for the next operation from a difficult environment: the op must work split, have decent filters, and spend time to become familiar with the equipment and the mode. Callers should send at the standard rate of 60 wpm and send right-side-up signals. Callers should send their call signs only twice and then listen! They should never send RYRYRYRY; by the time I tuned in the RYRY's, others would pop on the frequency, and I would see nothing but alphabet soup!

"I sat with the keyboard in my lap and peered at the screen. On Palmyra I was rewarded by a large insect inside the screen which damn near cost a couple guys' QSO's! The corpse is still there and I'll give him a decent burial after the QSL'ing chore is done.

"I think the RTTY guys are great . . . experienced and sympathetic, and I want to thank them all collectively, including my grandfather Signor Machievelli, W4JXM, who got me into the mess in the first place. My next trip to rare DX-land should be a corker. But I'll know how and when with better results.

"I would also like to thank my fellow ops: KA9J, W0RLX, KP2AM, JA5DQH and F6EXV who refrained



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from killing me and sledge-hammering the gear, although the temptation must have been overpowering."

Stu also included some statistics that are interesting. On Kingman the six ops worked 19,706 QSO's in 152 hours of operation. Of this total, 55 were on RTTY and 681 were on 160M. The Palmyra stop accounted for 15,022 QSO's in 87 operating hours. From there they worked 59 on RTTY and 504 on 160. The QSO's were generally divided equally between CW and SSB.

Eavesdroppings

I AM TRYING TO WORK SANDWICH CALLS LIKE YOURS: W0HAH ... MY WIFE NAMED HER TWO NEW POODLES "SCRATCH" AND "SNIFF" ... HAVE A NICE DREAM ABOUT THAT PY0 DXPEDITION - WORK THEM IN DREAMS AND LATER IN REAL ... WHEN THAT KH0 SHOWS UP THE BAND WILL BE BOILING ... THE POWER LINE SHOT UP TO 200 BOLTS ... CU AROUND THE BAND OR IN THE BATTLE ... THE SOFTWARE HERE IS THE PACKRATH ... YOUR ROUND PLANE ANTENNA IS REALLY CIRCLING THE
(please turn to page 50)

Ray Clark,
K5ZMS



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Finland is on 6!

Field Day - June 25, 1988 - brought the first 6M QSO's with Finland from Jan Hubach, OH1ZAA, SMIRK #3104, (also known as NN0Y and ZF2KZ). It was only fitting as Jan spent the past few years trying to gain 6M for Finland. Because of his 6M knowledge, he was picked to lead the negotiations with the Finnish govern-

ment. Sixty 6M licenses are expected in the first batch.

Finnish 6M operators can operate from 50 to 50.5 with 50W CW, 200W PEP SSB, no antenna restrictions. All 10 districts (OH1-OH9 and OH0/Al- and Islands) and probably OJ0/Mar- ket Reef will be represented. The open- ing he caught lasted from 2145 to 2300 UTC.

Many worked G's into W8 land. Spanish and western Europe TV was reported being received for several hours into the Great Lakes area. Jan says in Europe they use the full six- digit Grid Square Locator and asks that we also adapt it. I have the same request from our English friends.

The Luxembourg (LX) Amateur Ra- dio club has applied for 6M permits to the LX PTT. More news as I learn it.

Australia gets full use of 6M!

Gil Sones, VK3AUI, says VK's 6M usage has been modified. They now have 50-54 MHz with some restric- tions in the 50-52 MHz region. There is a blanket no-interference with Chan- nel 0 TV clause in effect, with a 25W power limitation in VK5, VK7, and VK8 in the 50-50.15 MHz region.

Gil views it as a pretty satisfactory arrangement for VK 6M operators. He says that JA, HL, KG6 and KH6 have all been worked further north of him in VK, with low power. In VK4, 10W and a modest antenna have been enough to work a whole pile of DX.

FP/KA3B St. Pierre & Miquelon

Harry Schools worked 418 U.S., six VE, 196 European and one other DX station for a total of 621 contacts in 16 countries during his DXpedition. He worked: W1-115; W2-112; W3-90; W4-74; W5-17; W6-0; W7-0; W8-9; W0-1; VE3-6; G-143; GI-5; GJ-2; GM-26; GW-9; EI-2; CT-2; LA-2; ZB2-1; VP5-1; PA-2; OX-1. He worked a total of 104 grid squares.

He could have done better, but the airlines lost his preamp and memory keyer, and he could not use his Yagi. He also suffered a lack of Es to the west. He did work a number of Euro- pean QRP'ers, including one fellow us- ing 2W to an indoor dipole. He met Henri LaFitte, FP2HL, who has a Swan 250C and 6-element beam.

He can't get on 6M from his present home because he lives one block from the local TV station and has RFI prob- lems. He will be active from his sum- mer home once he gets the electricity.

Harry was glad to see stations on both sides of the Atlantic spread out during the massive four-hour opening of June 6-7. He was up on 50.252 for a good length of time and had no dif- ficulty in attracting attention. He will probably go to FP0 again.

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P40JT Aruba results

The June 9-19 P40JT, Jimmy Treybig, W6JKV, and Dick Hanson, N4HSM, results are in. They report 218 QSO's as follows: 15 each in W1, W2 and W3; W4-64; W5-43; W6-1, K6QXY; W7-4; W8-27; W9-4; CT-2; CT1DTQ and CT4KQ; 8P6-2, 8P6LL and 8P6JW; VP2-1, VP2D; VE-3; YS-1, YS1ECB; TI-2, TI2HL and TI2NA; P4-2, P43AS and P40R (W3-BTX/4).

Jimmy left P43AS geared up for 6M with a Yaesu FT690R, Lunar amp and a Mike Stahl 7-element M2 Yagi. They also reported six 2M EME contacts. He recently had another 6M EME contact from the home QTH, this time with "Shep" Shepard, W7HAH, Montana. Shep used only one antenna, proving again that you do not need a multi-antenna system to do it.

DX news

The big news is that on May 31, Al Fromm, AL7C, Anchorage, reports their first KL7/JA opening when he worked four JA's, one of which was JD1HQQ, who recently worked Bob Autry, WY5L/KH3, Johnston Island. Al is the donor of the KH3 6M equipment.

What goes around comes around! Bob is reported to have recently worked into W6 and Nevada. His beacon runs from on 50.110 on Sundays, 1900-2300 UTC. He can be found on 28.885.

The activity continued into June with Japan to Western Canada/U.S. and European to Eastern Canada/U.S. openings of recent days. On June 5, at 0400-0500 UTC, stations in VE5, VE6, KL7, western Colorado (26 JA's worked), W6 and W7 worked many JA's on Es.

The biggest news was yet to come when, on June 6, the eastern part of the two countries — clear into W8/W9 and Oklahoman W5's, through W4's in Georgia — worked a major Es opening into Europe from 1700 to 2230 UTC. Old-timers say this was the biggest Es opening to Europe in the history of 6M.

Bill Tynan, W3XO's report is typical of what many stations worked. 1700-1800 UTC, FP/KA3B, many G's, three PA's. 2013-2230 UTC, more G's, PA's, OX3OX, LA3EQ, and GI, GW, GJ, EI6AS stations.

Bill said European stations were thick from 50.1 to 50.3 on SSB, with others working many on CW below 50.1. He, and several others who reported, say they made their contacts at 50.2 to 50.3! Others report working over 100 G stations alone up there.

Other operators reporting activity include WB8IGY, who worked G's, CT4 (as did others), and PA's between

2300 and 0200 UTC, mostly on CW. He also reported that Al Noe, KL7NO, was in at 0200 AM to his QTH.

Ray Burns, W4TZG, TN, reports he worked OX3MS, and nine G's. Bill Blazina, K3EAV, PA, reports working CT1WW, as did others.

What clued me onto this opening was a 1400 UTC telephone call from Dave Newman, G4GLT, telling me he was hearing us W5's working VE3's (which we were). I never heard him or any other 6 station.

Since then, there have been intermittent reports of continued Es openings to Europe. I just received a report of Pacific Northwest W7 stations having another JA opening on Sunday night, June 26.

Herb Spoons, W3IWU, PA, reports on the June 6th opening, 1620-1654 UTC (went back to work) and 2053-0130 UTC June 7. He worked 22 G's, including GD, GI, GJ, GM, GW, PA0, PA3, OX3LX, EI6AS. He heard FP/KA3B, LA3EQ, LA6HL and EI2AF. The following beacons were heard: VE2STL, CT0WW, GB3SIX, GB3NHQ, OX3VHF. Herb said the opening was noteworthy for the intensity, duration and the fact that everyone spread out to cut down on the low-end pileups of the past.

Phil Miller, W3WFM, MD, says he worked: EI-1, G-99, GI-3, GJ-6, GM-10, GW-15, LA-1, OX-1, PA-5, FP-1 stations during the June 6 opening.

9J2CR, Kitwe, Zambia, was reported heard in the United Kingdom on June 7, at 0815 on 50.189 SSB. He worked several GM stations during an LA, CT0 and 9H1 Es opening.

Hal Lund, ZS6WB, reports continued activity to Europe in April with contacts into Greece and Malta, and a near QSO with G4NDG by ZS3AT. The first part of May brought more European contacts for Tom, ZS3AT, on the 4th (9H1FL) and 8th (CT4KQ).

Hal says the *FIVE NINE World VHF News* column of JA1VOK shows 6M open every day from April 4 to May 3 in Japan. Countries QSO'd from JA were 3D2, 5W1, FK, FO0, FW, H44, HL9, KG6, KH0, P29, T20, T5, VK2-4-6-8, VK9N, VS6, YC, XX9, ZL1-2-3. The VK8VF 2M beacon was heard in JA on April 9, 13, 15-17, 19, 24 and May 2!

Hal announced the establishment of the Southern Africa Six Metre Award, available to any country except RSA. Show proof of two-way 6M contacts with stations in a minimum of 10 different grid squares on the African continental mainland south of the equator. All contacts to be made after January 1, 1986.

Applicants must supply QSL's or photocopies certified by a representative of your national Amateur Radio organization and 5 IRC's to: VHF Awards Committee, Pretoria Branch, SARL, P.O. Box 1259, Pretoria 0001, REPUBLIC OF SOUTH AFRICA.

Mike Michaelides, KH6JJK, reports the following 1988 DX: March 6, 0114 (all times UTC), CX8BE; March 22, 0826-T22JJ; March 30, 0340-VK4-FNQ; April 1, 0832-FK1TS; April 2, 0844-NO1Z/KH1; April 3, 0330-VK4-FNQ; April 7, 0630-FK1TS, 0644-VK4BRG, 0654-FK1TS; April 12, 0608-VK4FNQ, 0733-3D2MP; April 21, 0629-FO0AQ; April 25, 0435-VK4TL; May 7, 0827-VK4RO; and May 29, 2005-WY5L/KH3. The band was also open to the U.S. West Coast on May 22, 23 and 24.

Lambert, J73LC, has an SB-110 enroute, but still needs an antenna (someone send him a copy of the SMIRK Galapagos Quad). K3TX can get an antenna to Lambert.

An assortment of gear is enroute to Iceland to put that country on with 100W and 5 elements. Look for TF1JIT or others operating from Vestmanaeeyjar Island in HP93. Thanks to Steve, WA1AYS, KA1ICR, W1QXX and WA1VDW for their generous efforts.

Florida SMIRK Net

Richard Goehl, N4NDR, says the Central Florida SMIRK Net meets on Tuesday nights at 0000 UTC on 50.120, unless the band is open.

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6M equipment fund

Hal Lund, ZS6WB, has come up with the idea of putting a minimum of 10 new countries on 6M. He donated \$20 as a start. If you would like to donate equipment or money to the fund, you can send it to SMIRK, in care of my address. If you send equipment, it must be working properly. We don't have the time nor the money to repair unworkable gear.

Specify if it is an outright gift or a loan. If a loan, for how long. It should be 12VDC instead of AC, as many countries either have 220V or unstable AC. A 12VDC rig can be run off a car battery attached to a charger. It should be small, to cut down shipping weight and costs.

This equipment will be sent only to those countries that are not presently active on 6M, and have written permission to operate the band in hand, or can obtain such before the equipment is sent.

Demise of the KA3B International 6M Digest

I was very saddened to hear that Harry Schools, KA3B, citing 12-14-hour workdays and six- to seven-day work weeks, has quit publishing the *Digest*. It will be missed. However, as he says in his last edition (#9), SMIRK can take up the slack, if you members

(once a member, always a member) will remember to pay your annual dues. They are now \$6 a year, payable in January. You can renew now.

If enough of you support your club, we can put out a monthly newsletter. As part of your contacts, remember to pass on your SMIRK number to others. We have a number of awards (contact KC5TK for information) requiring the SMIRK number that you can work for. SMIRK has taken over the International Beacon Listing from Harry, which I just updated. It is available for a business-size SASE.

Equipment reviews

I had planned on continuing my reviews of other equipment. However, there is so much activity to report that I will have to delay it for this issue.

I have found out how to make my Kenwood TS-680S speak to me. By pushing the LSB/USB, VFO/M and the Power button all at the same time, my model will give me a visual "—HELLO—" on the digital readout. On CW it says, "Hello I am TS-680 I am glad to see you." You can clear the visual message by pushing the scan button or one of the other ones.

Remember, it feels better when you do it on 6! See you on the Magic Band all of a sudden! □

10-10 INTERNATIONAL News

Chuck Imsande, W6YLJ
10-10 19636

All those numbers!

There are three 10-10 members who volunteer a great deal of their time in keeping track of numbers — 10-10 numbers, that is. The first, and without a doubt the most difficult and time-consuming job, is that of the Records Manager, Lee Pasewalk, WB6MGM, 10-10 #309.

Lee keeps track of all 10-10 numbers issued, changes in call signs, Silent Keys, and any other requirement for the master record keeping of 10-10 numbers. With several hundred new members each month, think of the tremendous amount of work Lee has each month to keep the records of 10-10 current!

The other two who keep track of 10-10 numbers are our Bars and Plaques Managers: Bobbie Vaughn, WB7NNU, 10-10 #17416, and Buehren "Andy" Anderson, N5CUQ, 10-10 #40. Bobbie maintains the records for Bars 100 through 900, and "Andy" keeps the records for Bars for 1,000 10-10 contacts and up and the Plaques available for 1,000, 2,500, etc. 10-10 contacts.

This month's story is about our Bar Manager for the 1000+ Awards — Buehren "Andy" Anderson.

Andy was first licensed in 1961 and joined 10-10 the same year and received 10-10 #40. He has been active on 10M and in 10-10 from the time he joined and has completed his 5500 Bar, worked 97 10-10 DX countries, has his 10-10 WAS and VP-400 Certificate. In addition, Andy has over 300 certificates and upgrades from various 10-10 chapters.

Andy served in the U.S. Army for almost 26 years, and after retirement in 1965, went back to school and graduated from the University of Texas at El Paso. After working as a real estate broker for a while, he decided to go "country" and ended up in Fredericksburg, Gillespie County, Texas, with 2½ acres.

Andy says that with that kind of territory, he can do just about anything he wants to and put up any kind

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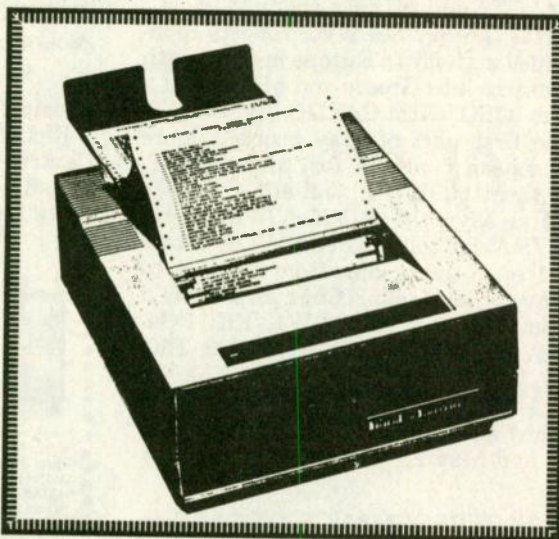
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of antenna. He has over 25 peach trees and 400 blackberry bushes, and plenty of room to "spread my elbows." His "other hobby" is raising all kinds of fresh vegetables, including some fantastic sweet potatoes, weighing up to 3 lbs. each! (Now, I know they claim that everything grows *BIG* in Texas, but 3 lb. sweet potatoes???)

"Andy" first became interested in Amateur Radio in 1935 at the age of 15, experimenting in his parents' home in Dallas. His workshop was in the basement, and his father made him pay for the fuses he blew out from his allowance. Andy says he kept blowing out fuses every week with his experiments.

His radio room now has a Kenwood 530SP along with a 4-element beam antenna on a 40' tower.

Retirement has brought Andy into an extensive study of RF propagation along with weather conditions from local and state weather maps. He says the only thing he misses is a local college or university where he could spend some time in the library researching or attending classes at least two days a week.

With all of Andy's time spent in gardening, studying RF propagation, and keeping track of all of the 1000+ Bar Awards, he still finds time to spend six to eight hours a week on the radio, making contacts with old 10-10 friends and making new contacts with the many new 10-10 members who have joined 10-10 in the recent past.

We salute another active 10-10 volunteer, without whose help 10-10 would not be the organization it is.

The 10-10 Scholarship Fund
Gerry Gross, WA6POZ, 10-10



"Andy" Anderson, N5CQU, 10-10 #40, 10-10 Bar Manager for 1000+ Bars.

#21274, 10-10's treasurer, reports that a number of donations have been received for the 10-10 Scholarship Fund. One notable for mention was received from the Cypress Chapter in Florida — a generous donation of \$95.

This is a worthwhile effort for all

10-10 members, and no donation is too small. If everyone who owns a 10-10 number would send Gerry just \$1, our Scholarship Fund would become self-sustaining from just the interest received. Think about it. Can't you spare a couple of bucks?

Send your donations to: 10-10 Scholarship Fund, c/o Gerry Gross, WA6POZ, 8145 Cozycroft Ave., Canoga Park, CA 91306. Make your checks payable to "10-10 Scholarship Fund."

Chapter Net Guide

Of special interest for new 10-10 members is the 10-10 Certificate Net Guide published by Jim Beeswick, W4YHF, 10-10 #11718. This guide lists all of the 10-10 chapters, their certificates, how to qualify for the certificates and upgrades, and most importantly, who to send your certificate request to.

The cost of the Guide is \$3 plus first class stamps. Updates are published each month and are available for 70¢ per month. Send your order to Jim Beeswick, W4YHF, Route 5, Box 77B, Ellijay, GA 30540.

Finally

Are your dues due? Your mailing label on the *10-10 International News* indicates your dues expiration date. Look at your latest copy. It is important that you keep your dues current. If you have not received a copy of the quarterly *10-10 International News* recently, it is probably because your dues have expired.

If you are not a 10-10 member and are interested in learning more about the 10-10 organization, and how you can become a member and receive your own unique 10-10 number, a "green stamp" (\$1) to me at 18130 Bromley St., Tarzana, CA 91356-1701 will get you the information along with the latest copy of the official quarterly magazine, *10-10 International News*. Best 73 es cu next month. □

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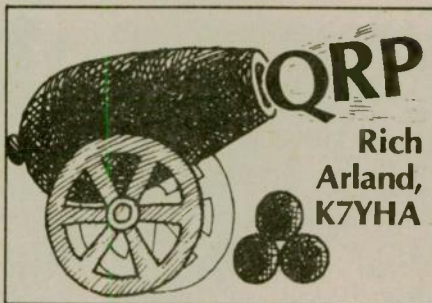
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Welcome back for part two of our multi-part QRP column on emergency/disaster communications. This month we are going to share some of the 1988 Field Day (FD) happenings at K7YHA.

This year was the first time since 1973 that I had gone into the bush for a solo FD effort. Packing my faithful Argonaut 509 HF rig, the portable VHF packet station and a tent, we (about half of the Arland clan) bivouacked at a beautiful camping spot near Waymart, Pennsylvania. The land was owned by Rev. Jean Kisskaden (my wife's boss) who had graciously invited us out to camp "any time".

Any time turned out to be FD weekend! Jean and her husband, Graham, had purchased 150 acres (mostly farmland) which had a bass pond smack in the middle! What the heck, if the prop was punk, I could always fish. (As it turned out, I landed a 5 lb. large-mouth bass and my daughter, Wendy, KB4UNT, caught a 2 lb. calico bass. Not to be outdone, my son Jamie hooked a 3 lb. lunker!)

First order of business was erecting the tent and squaring away the campsite. This took about an hour with all four of us working at various chores. Once the camp formalities were out of the way, we hit the sleeping bags for a good night's rest. Next morning, out came the Antennas West Quick Launch system (for their G5RV), my bow and arrow, and up went the antenna (or so I thought).

Edsel Murphy was hiding in two of the trees, thwarting my best efforts. I

ended up losing all my arrows in a huge tree, which left me with the fishing rod and the Quick Launch system. Finally, after ump-teen tries with the QL system, I lost both heavy lead sinkers. Being persistent, I grabbed the spark plug socket from my tool kit and used it as a weight for the QL system. *FINALLY*, I managed to get each end of the huge Radio Works SuperLoop II into the trees!

For the primary HF antenna, I chose the SuperLoop II (aka "The Navassa SuperLoop" available from The Radio Works, Box 6159, Portsmouth, VA 23703). This is a full-size Delta loop for 80M that will work on 80-10M with a tuner. The bottom end of the huge loop antenna was only 3 feet off of the ground, but it did not affect the way the SuperLoop II performed.

The antenna worked like gangbusters! Back up for the SuperLoop was the Antennas West QRV Emergency Pack (a G5RV variant). As it turned out, I didn't need the G5RV, but I wanted to be sure that all bases were covered.

I started working 40M SSB (something I don't normally do is use SSB for any contest work). With a full 2W pumping out of the Argonaut, it took me less than one hour to fill out a log page (25 QSO's). That's about one QSO every two minutes — pretty good for a QRP station!

Obviously, the SuperLoop II was up to the task of FD. I tried all modes on all bands to get a feel for the antenna. Seldom did I have to call stations more than twice to get in their logbook.

All totaled, I worked 69 contacts on all bands during FD. Not a lot, but I did manage to get on the air and have some fun. In addition, I found a serious defect with the packet station.

Thirty-one of the QSO's were on 40M SSB. This is some kind of record for me, as SSB is *NOT* my favorite mode. My one QSO on 80 CW was my own club (Murgas ARC) K3YTL. 15M provided some interesting QSO's out to the Midwest on SSB. Granted I didn't make any tremendous overall score, but I did have fun, learned some things, and found several weak spots in my portable set-up.

By the time I had a chance to get set up on 80, it was about 2200 local time and the bugs were eating me alive. You know your bug spray isn't too effective when the critters hover around the bottle waiting for the lid to come off so they can get a drink! Feeling a bit like a human pin cushion, I shut down the station and went to bed.

In order to fully exercise the VHF portable packet station, I hung the VAK-Tenna in a tree, about 15 feet off



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of the ground, using a piece of nylon cord. Once on the air with packet, I was bitterly disappointed. I was unable to access the K3RLI BBS in Wilkes-Barre (PA) from our campsite. I even hooked up the Ramsey amp which, when driven with my Alinco ALX-2T Micro-HT, puts out about 40W and still could not get connected to anyone.

Graham later explained that this particular location was a VHF dead spot except for one local 2M repeater nearby. I confirmed this by trying to use my weather radio. We were only about 20 miles from the Aovca airport, but I was unable to pull in the VHF weather transmissions.

Next time, the J-pole 2M antenna and the 40 feet of portable mast that I have in the shed will make the trip to the FD site. The additional antenna height and the higher power (using the Ramsey amp) would have probably made the difference on packet. This is what Field Day is all about — finding out what works and what doesn't **BEFORE** an emergency occurs.

Power for the FD exercise was furnished by two sources, both available from Sunlight Energy, 2225 Mayflower NE, Massillon, OH 44646 (send \$2 for complete product line and price lists). The HF station was powered by a 12V deep-cycle battery that was charged by a 23W Sovonics P-201 Solar Module. This module is extremely adaptable to emergency/disaster communications systems due to its light weight and extreme durability.

This particular solar module technology uses the new "thin film deposit" techniques where the solar cells are actually built onto a sheet of stainless steel. These panels are so rugged, you can actually hole them with gunfire and they will continue to charge a battery. Try that with your Arco solar panel!

No charge controller is used with the Sovonics P-201 solar module. (With the battery being exercised regularly, it is basically impossible to overcharge the big deep-cycle battery.)

The VHF portable packet station was powered by a Globe GC-1245, 4.5 amp hour Gel-Cell charged by a 2W Sovonics Battery Topper. This solar module is about 12" x 16" (thickness is about the same as a piece of poster board) and fits into the lid of the brief-

case that carries the VHF portable packet station.

A TO-5 regulator circuit was built up to allow the Gel-Cell to power the Tandy Model 102 computer (it runs off of 6VDC), in addition to charging the batteries for the HT and the computer and powering the Pac-Comm Micro-2 TNC.

The following is a brief rundown of the HF station: Argonaut 509 HF transceiver, MFJ-941D antenna tuner, MSC "Smart Keyer" contest keyer, Bencher paddles, Palomar Engineers R-X Noise Bridge, OptoElectronics 1300H/A frequency counter (the Argo dial is notoriously inaccurate), Radio Works SuperLoop II Delta Loop antenna, the QRV Emergency Pack G5RV dipole, Sovonics P-201, 23W solar module and 12V deep-cycle battery.

The VHF packet station consisted of the Tandy Model 102 lap-top computer expanded to 352K with a Traveling Software Booster Pack, Alinco ALX-2T Micro-HT with extra battery pack for the VHF radio portion, PAC-Comm Micro-2 TNC, 4.5 amp hour gel-cell and Sovonics 2W Battery Topper solar module for power.

Was it fun? You bet! Would I do it again? Yessiree, Bob! As a matter of fact, next year, I intend to try to get Ike Kerschner, N3IK, in Kunkletown, Pennsylvania, and a few other local

QRPer's together and form the "Endless Mountains QRP Expeditionary Force" with the intent of giving Fred Turpin, K6MDJ, and the Zuni Loopers a run for the money.

FLASH!! Bob Brown, NM7M, has produced the first do-it-yourself propagation cookbook for the radio amateur. Titled *The QRPer's BASIC Propagation Tool Kit*, it consists of a 43-page booklet which details a modular approach to designing propagation programs in BASIC for the ham shack computer.

Now, for those of you who have never used a computer-based propagation program, let me say that it is the greatest thing since sliced bread. Bob's masterpiece takes you through the various steps so you can design your own propagation program for your particular computer. Price is \$6.50 from the QRP Candy Store, c/o Bob Spidel, W6SKQ, 45020 N. Camolin Ave., Lancaster, CA 93534.

That's a wrap for this month, faithful readers. Don't forget to catch my QRP program on HCJB's *Ham Radio Today* show, hosted by John Beck. This program is aired every Thursday morning at 0230 and 0630 UTC (Wednesday evening in the United States) on 9270 and 11755 kHz shortwave. Questions/comments: SASE to Rich Arland, K7YHA, 9 Vine St., Shavertown, PA 18708. □

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Handy HT holder

Al Elmore, WA4RGO

This is not a new idea but seems timely to repeat with all of the new HT's and similar-sized scanners many of us carry around in our cars today.

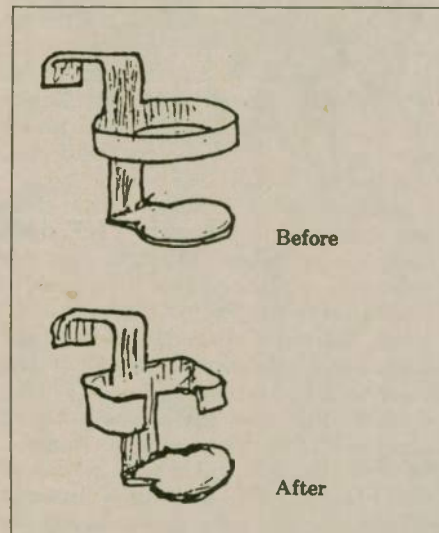
American automobiles are ingeniously designed so that there is nowhere to put my 02AT or Regency HX1200 scanner while riding down the road and turning corners without the radios taking on the characteristics of a ping pong ball. For as little as 19¢, you can pick up one of those flexible plastic cup holders at Pic-N-Save and jam your radio down in it. The hook on the holder adapts well to the window well opening next to the steering wheel and stays put!

Better yet, cut about 1" or so out of the center of the loop of the holder. Cut a board (perhaps out of a 2 × 4) down to

1½" by 2½" as a former block. Put the block down between the new prongs you created. Put mama's hairdryer on high heat and form the prongs around the block so they square off into a perfect fit for your HT. A small propane torch will speed up the job. I bent mine inward slightly to cause a tighter fit on the radio. This leaves the front panel of your radio exposed for programming or whatever.

It will take a while to bend the prongs under the heat, but a little patience pays off in a very effective and convenient unit for carrying your radios. The rubber duckie now sticks up above the metal of the car, and the unit is tucked up in the corner out of the way for easy access to the volume and squelch controls. Try it — you'll like it!

—North Florida, ARS, Jacksonville, FL



Digital Bus

(continued from page 44)

GLOBE ... MONITOR HERE IS A COLON TV ... YOU MUST BE A LOT LIKE HACKLE BERRY FINN ... I PRINTED HIM BUT HE WAS COVERED BY HIGH AND WIDE DOGPILE ... THE BAND IS SO DEAD I HAVEN'T EVEN HEARD THE WOOD CLICKER ... I RECENTLY HAD A FIRE AND ALL OF MY DXCC QSLs ARE A THING OF THE PAST ... THIS KEYBOARD HAS A FEATHER TOUCH AND I HAVE LEAD FINGERS ... AS A DX STATION YOU SHOULD

WORK SPIT ... LAST NIGHT I HEARD 9V1 SO MUST EYE PEEL FOR HIM EVERYDAY ... I HAD TO NEARLY REMODEL MY HOLE HOUSE TO GET THIS NEW RIG ... MY XYL IS PRETTY UNDERSTANDING — MORE PRETTY THAN UNDERSTANDING ... I WISH I COULD GET MY WIFE INTERESTED IN THE DIGITAL MOODS ... I KNOW HOW TO START AMTOR BUT I HAVEN'T LEARNED HOW TO STOP IT ... I AM RUNNING THE SHAME POWER — ONE KW ... I'M A RETIRED CHEMIST FROM THE SLIDE RULE GENERATION ... ONLY 50 PERCENT OF THE SSB

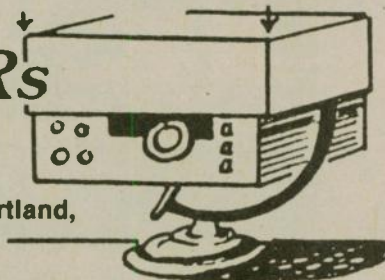
CONTACTS SEND CARDS, BUT 110 PERCENT OF THE RTTY GUYS DO ... JUST A MINUTE, I'LL RUN OUTSIDE AND SEE IF THE BEAM IS ON YOU ... TODAY I RECEIVED A RARE CARD FROM NP1 AND NOW I AM DANCING AND HOPPING ALL OVER THE PLACE ... JUST REMEMBER — PROPAGATION HAS TO GET BETTER BEFORE IT CAN GET WORSE!

My thanks to Stu for taking the time to write his notes on the Kingman/Palmyra operation. He would have been more efficient if the RTTY fans all over the world would have cooperated with him. Like I said before, there was one station that called four complete lines of RY's and call signs every time he called Stu. When are we going to learn? Short calls and listen!

Thanks too, to W0HAH, W7VFR, and all those others who piled up the eavesdroppings for me. 73 from Bill Snyder, W0LHS, 1514 South 12th St., Fargo, ND 58103. DIT DIT. □

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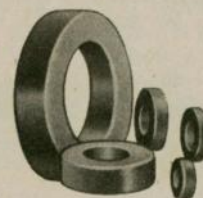


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Part 97 Rewrite

The Federal Communications Commission is rewriting Part 97 of its rules, the part that governs the Amateur Radio Service.

Relatively few substantial changes are proposed; it is mainly an effort to reorganize the amateur rules in view of the changes that have accumulated since the last restructuring in 1951, putting together the rules that go together, eliminating those that are obsolete, and spelling out in the rules what has become the FCC's current way of doing things.

Basis and purpose

The notice of proposed rulemaking says the last restructuring was in 1951, nearly 40 years ago. That was the last restructuring that was actually adopted by the FCC, but there was an attempt made in 1980, Docket 80-729 — one that the amateur community would probably just as soon forget.

The Commission proposed new regulations that avoided traditional legal language, and presented the rules in a question-and-answer style similar to that already used for CB and for VHF FM radio used by recreational boaters.

It received a cold reception, not so much because of actual changes in the rules as because the proposed rules expressed a greatly different concept of Amateur Radio.

To begin with, Section 97.1, Basis and Purpose, was replaced with a definition of Amateur Radio as a hobby, pursued for the personal goals of hams.

Quite rightly, amateurs objected, because Amateur Radio's record in pursuing the purposes outlined in Section 97.1 has been our chief justification for keeping our frequency allocations — frequencies that many other users would like to occupy. Drop that, and soon we would be without any frequencies, and the world would no longer have the benefit of Amateur Radio. The FCC finally decided to leave the regulations as they were.

Fortunately, this time the FCC staffers have not only retained Section 97.1 in their restructuring, but have even made it the outline, the skeleton on which are hung various subparts of the new rules. And legal style is retained.

While it may cause some difficulty for those who are not accustomed to it, it does have the advantage of being objectively clear, with a meaning that is the result of the work of generations of legal scholars and of court decisions.

Ship and aircraft stations

Getting down to specifics, Section 97.11 discusses stations aboard ships and aircraft, and generally repeats Section 97.101 of the present rules.

One change: the present rule says, "(b) The amateur mobile station shall

be separate from and independent of all other radio equipment, if any, installed on board the same ship or aircraft."

The proposed rule, Section 97.11 (b), makes an exception, allowing the amateur station to use the antennas of a voluntary ship installation, that is, of any radio installation aboard ship that is not required by law.

One wonders if even this regulation is really needed. Could it not be left up to the persons involved to determine in a particular case how much of the ship's radio installation can be shared by the amateur station without generating a hazard? Power supply? Receiver? Microphone? Keyer? Clock? Tools and test instruments? Light? Pencils? Typewriter? Radio room? But then, regulators must regulate; that's what they are paid to do.

Emergency communications

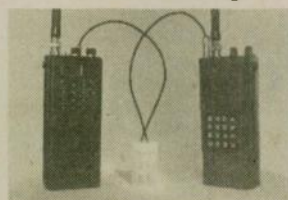
Proposed Sections 97.101 to 97.105 cover emergency communications, and are a complete rewriting of the rules. They do not change much, though. Rather, they make explicit what has been a tacit understanding between amateurs and the FCC — in fact, between amateurs and the Federal Radio Commission — and even the Department of Commerce in the years before there was any FCC,

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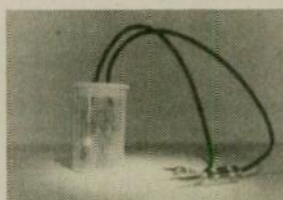
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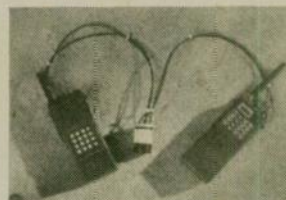
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that in an emergency almost anything goes.

There is no room to discuss these sections here; they alone would require all the space available for this department. Maybe next time. But the proposed new rules are excellent.

Non-emergency public service

Section 97.107 incorporates into the rules what the FCC has said on recent occasions about providing communications for public gatherings: if it's mainly for the benefit of the public, it's OK, but not if it's mainly for the benefit of the sponsoring organization.

Automatic control

Section 97.211 discusses station control and provides for automatic control. Paragraph (d) repeats the prohibition of present 97.80 (b), forbidding stations under automatic control, except packet stations on frequencies above 50 MHz, from handling third-party traffic. One wonders if this is not also a case of regulatory overkill.

First, how is one to know whether a repeater or a satellite is operating under automatic control? And second, why precisely is the control operator needed? To insure that the traffic being passed is permissible under the rules?

In the case of a formal message that has been relayed across the country via the National Traffic System, and handled by several operators already, is it really necessary that there be a control operator to make sure it's legitimate?

Anyway, it's really the operator originating the message who is best placed to determine whether or not the message is legitimate, as s/he would be able to question the third party for whom the message is being sent should there be any doubt.

Third-party traffic

Section 97.215 deals with third-party traffic in general, involving a considerable amount of rewriting, but substantially repeats the present rule, incorporating the definition contained in present Section 97.3 (v): "Messages from the control operator (first party) of the station to another amateur station control operator (second party) on behalf of another person (third party)."

It might be better if the FCC were to change the last phrase of that definition to read: "on behalf of anyone other than the control operator of an amateur station (third party)." As it stands, the definition would outlaw even acting as relay between two amateurs having difficulty communicating with each other, unless they all happened to be in countries among which third-party traffic is allowed.

Space operation

Section 97.311 repeats substantially what is contained in Subpart H of the present rules. One observation is that these rules assume the space transmitter is remotely controlled from the ground, as amateur space stations generally are at present. But amateurs have operated from the space shuttle, and we hope they will be aboard the space station in a few years; in this case the special regulations in this

Section would be unnecessary.

Operation could be regulated adequately by the rules for stations on aircraft. Perhaps the rules could be changed to apply only to space operation without a control operator aboard the spacecraft, when all these provisions of the rules are necessary.

RACES

Section 97.317 restates the current RACES regulations in Part F of the rules. Unfortunately, they have not been revised and contain some obsolete prohibitions, such as restricting the stations with which a RACES station may communicate.

RACES stations remain amateur stations, and so at present can swap hats at any time, communicating as a RACES or as an amateur station as appropriate. These rules were adopted when non-amateurs were allowed to be RACES operators, and the prohibitions made sense.

They would still have some application in the event that a national emergency should require restricting or prohibiting other amateur operation. But what effect does the present prohibition of more than one hour per week for training have, when the RACES gang can doff the RACES hat and meet at any time as an ordinary amateur net?

Conclusion

These observations represent one amateur's reaction, and indicate a few things that seemingly could be improved. But the proposed regulations are indeed a definite plus — a forward step, and we can live with them as they now stand. In fact, I'd say the FCC staffers have done an excellent job.

Comment period extends until August 31, with reply comments accepted until October 31. So there's still plenty of time to file comments with the FCC. If you have anything to say, speak now or forever hold your peace! □

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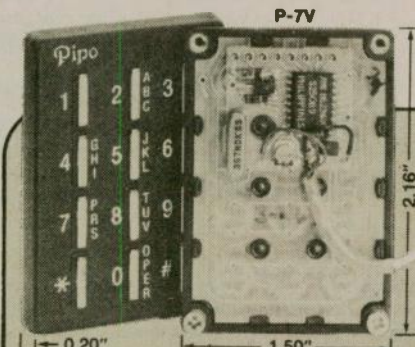
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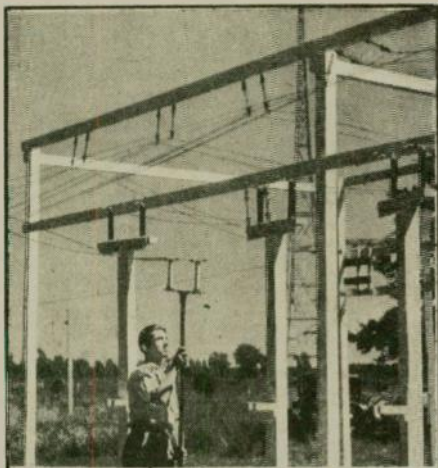
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There will be a little math. Do not let your eyes glaze over . . . follow it through. The truth shall make you free (of misconceptions.)

You have 100W forward and 50W reflected. (Tearing out your hair? . . . Wait!)

- A) 50 divided by 100 equals 0.5.
- B) The square root of .5 is .7071067.
- C) Add 1 to that for 1.7071067.

Next step:

- A) 50 divided by 100 equals 0.5.
- B) The square root of .5 is .7071067.
- C) Subtract .7071067 from whole number 1.
- D) The answer is .2928933.

Next step:

- A) Divide 1.7071067 by .2928933.
- B) The answer is 5.8284252.
- C) Round off to 6.

You have an SWR of 6 to 1, which tells you that on the other end of your 50Ω line the antenna is either 300Ω or 8Ω.

Now comes your big question. Is half your power wasted? Now comes my big answer. NO!

Let's say you are using 100 feet of RG-8/U foam. At 20M it has a matched loss of .6dB per 100 feet.

With an SWR of 6:1, you will lose (in the feedline) exactly 1 additional dB. Yes, one whole dB. No one will hear the difference!

Your tuner does the magic, for if the antenna is short (capacitive) and you see zero SWR (after adjustment), the tuner is now set inductive and it kicks the wave back up to the antenna.

Alternately, if the antenna is long (inductive), the proper setting of the tuner will be capacitive and thus the reflected wave will get booted right back to the antenna, whence it will truly radiate.

One point: Under the conditions described, an SWR of 6 at the feed-point will only register 4.5 at the end of 100 feet of coax.

To prove the point even more: Say you have 100W up and 75W back down. Your SWR is 14 to 1. Hah, you say. Why, your own receiver right in the shack won't hear you.

Assuming you can match either 4Ω (your antenna is a speaker?) or 700Ω, the loss is 2½dB or about half of an "S" unit.

And yes, with proper values of the C and L you can match 4Ω or 700 (and much higher).

With an SWR of 20 you will lose 3dB — not the best situation, but a loss which can hardly be called "tremendous." Actually, this extremity was used to prove a point. It is unlikely that your dipole will be either 2.5Ω on one side or 1,000Ω on the other.

That is not to say that some antennas couldn't be. Very, very short verticals will get down pretty low, and multiple wire flat-tops get pretty high. But you would most likely match the vertical right at the base and the '20s vintage antenna would use ladder line, which is essentially lossless.

I read in a magazine that someone was complaining that the resistance markings on a manufactured noise bridge were not too accurate.

First, what do you really expect for \$60? If you want "accuracy," you have the option of instead shelling out \$30,000 for an HP or \$25,000 for a Boonton.

You know, by the time a small business pays the rent, lights, heat, phone bill, employee health insurance, social security, unemployment, and a whole raft of other stuff, plus office equipment, test gear, etc. (before we even get to the cost of the actual parts), we're lucky we get what we get what we do receive for the retail dollar.

Next, with the noise bridge, if a 50Ω

resistor is used to calibrate the device, to show where 50Ω should appear on the dial, everything will be just fine. On the other dial, if you short out the center of the female connector to the shield side, that will show exactly where zero reactance is.

When you consider what happens to a Yagi when it faces the power lines in the alley or rotates over the car in the garage — or even none of the above, worrying about whether something is 50 or 53Ω or a sliver of reactance is truly an exercise in nonsense. □

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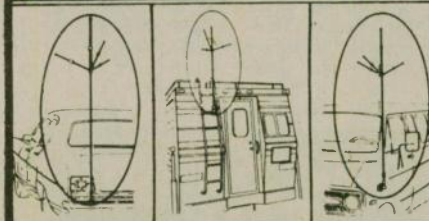
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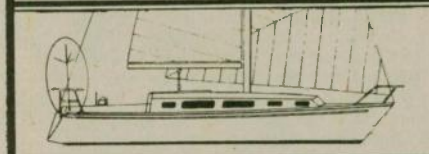
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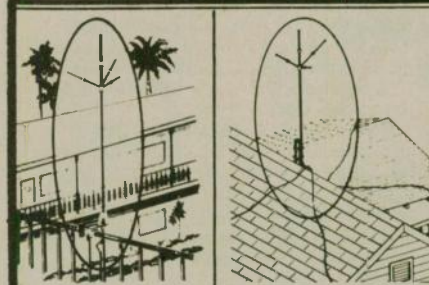
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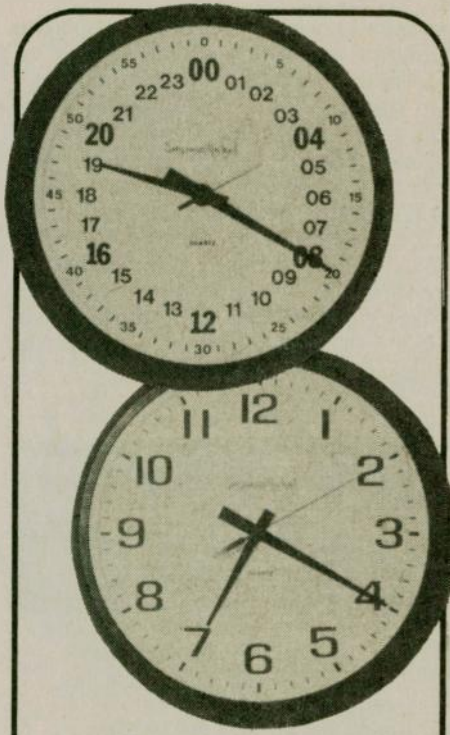
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HAMFESTS



California

The 6th annual SONOMA COUNTY RADIO AMATEURS Amateur Radio flea market, formerly held in Sebastopol, is in Santa Rosa this year. The hamfest is the largest on the North Coast and will be held Saturday, September 17, 8 a.m. to 2 p.m., at the National Guard Armory, 1500 Armory Drive.

Flea market, VEC exams, radio clinic, exhibits, refreshments, free door prizes and auction around noon. Vendor set-up starts at 7 a.m. Tables are \$7 at the door, \$5 in advance. (Advance registration gets best indoor spaces.) Free admission.

Talk-in on 146.13/73.

For tickets and information, write: SCRA, Inc., Box 116, Santa Rosa, CA 95402. □

Florida

The 23rd Annual Melbourne Hamfest, sponsored by the PLATINUM COAST ARS, will be held September 10-11 . . . NOT August 29-30, as the announcement stated in the August issue. Mark this on your calendar.

Georgia

The Rome Hamfest, sponsored by the COOSA VALLEY ARC, Inc., will be held Sunday, October 2, at the Rome Civic Center on Hwy. GA 20, across from Shoney's.

Admission is free. Homemade BBQ and stew. Camper parking available, but no hookups. Tables \$6 inside; outside spaces \$2. Drawings, bingo, contests. Super prizes for the main drawing. Amateur VE exams by Central Alabama VEC begin at 8 a.m. Reservations requested, but walk-ins are OK.

Talk-in on 147.30/.90 and 146.34/.94 (-600).

For more information, contact James (WD4JHF) or Linda (WD4JHG) Sineath, 1124 New Rosedale Rd. NE, Armuchee, GA 30105; (404) 291-9767. □

Illinois

The BOLINGBROOK ARS will be holding its 4th annual Ham/Computerfest on Sunday, September 11, at the Inwood Recreation Center, 3000 West Jefferson Street, Joliet. (The Inwood Recreation Center is located near the intersection of I-55 and I-80, and is on Illinois Route 52 between Routes 7 and 53.)

Indoor and outdoor display and selling areas. Also VE testing, seminars and guest speakers. Dealer set-up will be available on Saturday, and overnight parking will be available. (No hookups.)

Talk-in on 147.33 and 224.54.

For information or reservations, contact: Ed Weinstein, WD9AYR, 7511 Walnut, Woodridge, IL 60517; (312) 985-0527. □

Radio Expo 88 will be held Saturday and Sunday, September 24-25. This hamfest, sponsored by THE CHICAGO FM CLUB, will be held at the Lake County Fairgrounds, Rts. 45 & 120, Grayslake.

Flea market is open from 6 a.m. to 6 p.m. Exhibits open from 9 a.m. to 4 p.m. Limited indoor tables (8') available — \$7.50/day. Electricity is \$4/day. Admission is \$4 in advance, \$5 at the gate; children under 12 free. Free camping and parking, full food service, and prizes. Ladies' program.

For more information or reservations, write to CFMC, P.O. Box 1532, Evanston, IL 60204 (include SASE). □

The EXPERIMENTAL ARS and the ROCKFORD ARA will be sponsoring Rockford Hamfest 88 (an Amateur Radio and Computer Fair) and the ARRL Illinois State Convention on Sunday, October 2, at 605 Main Street, Rockford.

There will be a 100% increase in exhibition space. Also radio and computer programs, Amateur Radio and computer dealers, ARRL forums, displays and League representatives. VE exams. Prizes, food and ample free parking.

Talk-in on 146.61-.01.

For tickets and more information, send SASE to Rockford Hamfest, P.O. Box 10003, Rockford, IL 61111. Or call Jim Miller, W4JR, at (815) 397-4602. □

Indiana

The LAKE COUNTY ARC will sponsor its 16th annual hamfest on Sunday, October 2, at the Hammond National Guard Armory, 2530 - 173rd Street, Hammond.

Free parking. A limited number of tables available at \$5 each. General admission \$3.50. Set-up at 6 a.m. Hours are from 8 a.m. to 2 p.m. VE testing; walk-ins welcome with Novices free.

ARRL, ARES and Navy MARS information available. Food and refreshments available. Overnight accommodations are close by.

Talk-in on 147.00 or 146.52.

For more information, contact Lucy Schendera, N9DTG, 812 E. 40th Place, Grif-fith, IN 46319; (219) 923-4873. □

Iowa

The MUSCATINE and IOWA CITY ARC will be sponsoring the Southeast Iowa Hamfest on Sunday, October 2, at the West Liberty Fairgrounds, West Liberty (south of I-80 at Exit 259).

Gate opens at 7 a.m.; exams start at 10 a.m. Admission is \$3 in advance, \$4 at the door. Free outside flea market. Door prizes, refreshments and camping available. Exam registrations are due September 2. Contact Tom Kramer, 905 Leroy St., Muscatine, IA 52761; (319) 264-3259.

Talk-in on 146.25/85 or 146.31/91.

For information or table reservations, contact Ken Kucera, KA0Y, RR2 Box 52A, Riverside, IA 52327; (319) 648-5037. □

Kansas

The WICHITA ARC will again host the annual ARRL Kansas Convention in Wichita, October 1 and 2. The convention will be held at the Red Coach Inn at 53rd and North Interstate 135. Doors will open at 9 a.m.

Admission is \$5 in advance, \$6 at the door. Features include: a huge indoor flea market, commercial displays, technical seminars and special meetings, non-ham activities, a Saturday night banquet with entertainment followed by a Wouff Hong ceremony, a Sunday morning breakfast and a hospitality suite, compliments of the Midian Shrine Temple Amateur Radio Unit of Wichita. Also included are lots of prizes, including prizes at the banquet and the breakfast.

Talk-in on 146.82 for out-of-town hams, 146.94 for local hams.

Send advanced reservations to Vern Heinsohn, WA0ZWW, 950 Back Bay, Wichita, KS 67203. □

Michigan

The GRAND RAPIDS ARA will host its 40th Annual Electronic Flea Market at West Catholic High School, 1801 Bristol NW, in Grand Rapids. Gates open at 8 a.m. Admission tickets are \$3; sellers \$2 additional. Door prizes and VE exams, too. Vendors, please reserve tables.

Talk-in on 86/26 and 224.64.

For reservations or information, call Don Hazelswart, KA8BCI, at (616) 363-0649, or write to P.O. Box 1248, Grand Rapids, MI 49501. □

On September 18, the L'ANSE CREUSE ARC will hold its 16th Annual Swap & Shop, at L'Anse Creuse High School (directions: I-94, Exit #236, Exit Metro Beach; Metro Pkwy to Crocker; left on Crocker to Reimold; right on Reimold to last school).

Admission is \$3 at the door, \$1 in advance. (Advance ticket price is good till September 11.) Trunk sales are \$4 per space. Inside tables are \$8 each. Lots of dealers, food, parking and hourly prize drawings.

Talk-in on 147.68/.08 and 146.52.

For tickets and table reservations, send SASE to Ralph Wilcox, KA8YOJ, 39610 Chart, Mt. Clemens, MI 48045; (313) 469-3308. □

The ADRIAN ARC will sponsor its 16th annual hamfest at the Lenawee County Fairgrounds in Adrian, on Sunday, September 25.

The hamfest will run from 8 a.m. to 2 p.m. Admission is \$3 in advance and \$4 at the gate, with three main prizes and hourly drawings. Table sales are \$8, trunk sales \$3.

Talk-in on 145.37(-600).

Contact Mark Hinkleman, NU8Z, 108 E. Kilbuck St., Tecumseh, MI 49286; (517) 423-5906. □

New Jersey

The TRI-COUNTY RADIO ASSOCIATION is sponsoring their annual indoor hamfest/flea market, 8 a.m. to 8 p.m., Sunday, September 11, in the Passaic Township Community Center in Stirling.

Donations are \$3. Tables \$8, with power \$10. Limited reserved tailgating. Refreshments, restrooms.

Talk-in on 147.855/255, 146.52 and 444.975/449.975.

For more information, call: Dick Franklin, W2EUF, (201) 232-5955, or write to P.O. Box 182, Westfield, NJ 07090. □

The SOUTH JERSEY RADIO ASSOCIATION will hold their 40th Annual SJRA Hamfest on Sunday, September 18, at the Pennsauken High School parking lot, Route 73 and Remington Avenue. The fest will last from 8 a.m. until 2 p.m.

Admission is \$3/person, \$5/tailgate or table (bring your own table). Plenty of free parking. Activities include VE testing and door prizes. Food and drink available in cafeteria.

Talk-in on 144.69/145.29.

For more information, contact Hamfest Chairman Alan Sherman, WB2OEZ, (609) 768-8380; or SJRA, P.O. Box 1026, Haddonfield, NJ 08033. □

New Mexico

The NORTHERN NEW MEXICO ARC will hold its annual hamfest on September 24, 9 a.m. to 6 p.m., at the U.S. Army Reserve Center, 2501 Cerrillos Road, Santa Fe.

Features will include a tailgate flea market, new equipment vendors, and programs for hams and non-hams. Admission is \$5 for adults, \$3 for children under 12 (includes lunch).

Talk-in on 146.22/.82.

For information, contact Clem Burke, W5IXR, Box 73, Ojo Sarco, NM 87550 (SASE please). □

New York

The LONG ISLAND MOBILE ARC will be sponsoring the LIMARC ARRL Long Island Hamfair on Sunday, September 18, at the New York Institute of Technology, Rt. 25A/Northern Blvd., Old Westbury. (Exit 39 North on Rt. 495.)

Outdoor tailgating; no reservations needed. Sellers' car spaces \$5 each. General admission is \$3. Non-ham women and children free. Prizes and refreshments. Open at 7:30 a.m. for sellers, 9 a.m. for buyers.

Talk-in on 146.25/85.

For more info, call Mark Nadel, NK2T, (516) 796-2366. □

The ELMIRA ARA will present the 13th Annual Elmira International Hamfest at the Chemung County Fairgrounds, September 24.

The hamfest, an event which draws Amateur Radio, computer and electronics enthusiasts from across the Northeast, will include a variety of attractions, as well as drawings for various door prizes throughout the day.

Among the day's activities are an outdoor flea market, indoor dealer displays of new equipment, and breakfast and lunch served on premises. The gates will open at 6 a.m. and the hamfest will continue until 5 p.m. Tickets are available at the gate (\$4) or in advance

(\$3) from Dave Lewis, RD#1 Box 191, Van Etten, NY 14889.

Talk-in on 147.36.

For more information, contact EARA, 727 W. Third St., Elmira, NY 14905. □

The ORANGE COUNTY ARC will sponsor its 3rd annual hamfest on September 24, beginning at 9 a.m., at John S. Burke High School in Goshen.

Donation is \$2 at the door. Indoor tables are \$5 in advance, \$6 at the door. Outdoor space is \$3 in advance, \$4 at the door. VEC exams.

Talk-in on 146.760.

For more information, call (914) 564-0688, or write to Barbara Christopher, N2AWI, RD 2 Box 447, Wallkill, NY 12589. □

Ohio

The FINDLAY RADIO CLUB will be sponsoring a hamfest at the Hancock County Fair Grounds on Sunday, September 11. Doors open at 8 a.m.; set-up from noon to 10 p.m., Saturday the 10th.

Bigger flea market area (spaces \$4; first-come first-serve — no advance registrations). Limited RV sites available for \$5. Lots of indoor table space, food and prizes. Also meetings and forums. Admission is \$3 in advance (until September 9); \$4 after September 9. Tables are \$8 each; tickets with tables \$3 each.

Talk-in on 147.75/.15 and 449.15/4.15.

To order tickets, send SASE to: Hamfest Tickets, P.O. Box 587, Findlay, OH 45839. To order tables, mail payment and SASE to:

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Hamfest Tables, P.O. Box 587, Findlay, OH 45839. (After September 1, passes and tickets will be held in your name at the door.) □

The GREATER CINCINNATI ARA will be sponsoring the 51st annual Cincinnati Hamfest on Sunday, September 18, from 0700 to 1700 UTC. Location will be Stricker's Grove, Ohio Rt. 128, Venice (Ross).

Featured will be vendor exhibits, a huge flea market, special awards, entertainment, food and refreshments. Admission is \$5 in advance. Flea market car spaces are \$5 each. To order advance tickets, send check or money order to: GCARA, c/o J.P. Haungs, WA8STX, 10615 Thornview Dr., Cincinnati, OH 45241.

Talk-in on Cincinnati area repeaters, including 146.625/025, 146.10/70 and 146.25/85. Also simplex.

For information, request a copy of the "Hamfest Issue" of the club's magazine *The Mike and Key*, or contact: Walter L. Harris, KA8KLP, 6788 Parkview Dr., Cincinnati, OH 45224; (513) 242-1691; or John Haungs (see address above). □

The CHAMPAIGN-LOGAN ARC will be sponsoring the Bellefontaine Hamfest at the Logan County Fairgrounds on Saturday, September 24.

The hamfest begins at 7 a.m., but set-up may be started earlier — or Friday night if desired. Admission is \$2 in advance, \$2.50 at the door. Tables are \$3 each (sorry — no trunk sales).

Talk-in on 147.00+ and 224.50.

For more information, contact: Paul Kauffman, WD8CDB, 1205 Miller St., DeGraff, OH 43318; (513) 585-6352 after 4 p.m. □

The CLEVELAND HAMFEST ASSOCIATION will hold its annual Hamfest and Computer Show at the Cuyahoga County Fairgrounds in Berea, on Sunday, September 25.

Doors open from 8 a.m. to 4 p.m.; early set-up at 6 a.m. VE exams will be given at 9 a.m.; must have proper ID's, copy of license, and \$4.55 check payable to ARRL/VEC.

Technical forums and non-ham activities all day. Admission is \$4 at the gate, \$3.50 in advance. Tables are \$10 inside, \$4 outside flea market. Banquet Saturday night. Local hotels.

Talk-in on 146.52.

For more information, write to CHA, P.O. Box 81252, Cleveland, OH 44181-0252. □

Oregon

On September 9-11, the 1988 ARRL National Convention will be held at the Red Lion Motor Inn — Jantzen Beach, in Portland. The "City of Roses" and the NORTHWEST AMATEUR RADIO COUNCIL invite you to a "Convention Beyond Expectations."

Features will include: flea market, seminars, forums, Code Speed Championship, exhibits, VE exams and ladies' activities. Wild West Casino Night, sponsored by AEA, on Friday night. DX breakfast and program Saturday morning, and ARRL breakfast and forum Sunday morning. Saturday night banquet will feature astronaut Tony England, W0ORE, and ARRL President Larry Price, W4RA. Awards to be given out on Sunday.

VE exams will be given at 9 a.m. and 1 p.m. sharp on Saturday the 10th, in the Willamette Room. Examinees are not required to be registered at the convention. Walk-ins if space available; pre-registrations should have been received by August 10 to insure a space. (Include completed Form 610 and check for \$4.55, payable to Northwest Amateur Radio Council VE Committee.)

Convention admission is \$7 in advance, \$9 at the door; 18 and under free. Tables (8') are \$6 each; folding chairs \$1 each. Flea market space \$11. Banquet is \$20; DX and ARRL breakfasts are \$8; QCWA, Legal Forum and ladies' luncheons (all on Saturday) are \$12. Make checks payable to 1988 ARRL National and mail to P.O. Box 30805, Portland, OR 97230.

Talk-in on 147.04/64 and 449.325/444.325 MHz, and 3915 kHz SSB. The official on-site convention station, W7KYC, will be on the air September 8-11. Contact it and you'll receive a special convention QSL card.

For flea market info, call (503) 478-3790 or 296-3466 evenings, or (206) 892-7286 days. □

Pennsylvania

The UNIONTOWN ARC (W3PIE) will hold its 39th Annual Gabfest, as always, the Saturday after Labor Day — September 10. It will be held on the club grounds, located on the Old Pittsburgh Road, just off Rt. 51 and 119 bypass in Uniontown. The club will also be celebrating its 50th year.

Free coffee until 10 a.m. Free swap & shop with registration. Registration is \$3 each or two for \$5. Plenty of refreshments.

Talk-in on 147.045/645 and 145.17/144.57.

For more information, contact UARC Gabfest, c/o John T. Cermak, WB3DOD, P.O. Box 433, Republic, PA 15475; (412) 246-2870.

The BUTLER COUNTY ARA will be sponsoring the Butler Hamfest on Sunday, September 11, 9 a.m. to 4 p.m., at the Butler Farm Show Grounds, Roe Airport, Butler.

Free outside flea market, indoor flea market. Vendors' spaces \$5 each (per 8' table). Admission is \$1 (includes small door prizes); children under 12 free. Free parking,

refreshments and YL prizes, too.

To reserve indoor table space, contact Joseph Stahlman, WA3BVQ, Box 354-B, RD 4, Slippery Rock, PA 16057; (412) 794-8383. Hotel accommodations nearby.

Mobile check-in till noon — (W3UDX) 147.96/36; directions — (W3WKD) 147.84/24. Mobile prize awarded. Fly-in (Butler-Roe Airport) Unicom 1 80-100 Av Gas fly-in prize awarded.

For more information, contact General Hamfest Chairman John Varljen, K3HJH, (412) 283-9403. □

The Pack Rats (MT. AIRY VHF ARC) cordially invites all amateurs and their friends to the 12th Annual Mid-Atlantic VHF Conference on Saturday, October 1, to be held at the Warrington Motor Lodge, Route 611, Warrington, and our 17th Annual Hamarama on Sunday, October 2, at the Bucks County Drive-In Theater on Route 611, Warrington.

Advanced registration for the conference only is \$5, \$6 at the door. This includes admission to the flea market. Send to Hamarama '88, P.O. Box 311, Southhampton, PA 18966. Admission to the flea market is \$4 per person, \$7 per carload. Selling spaces are \$6 each. The gate will be open at 6 a.m., rain or shine. Bring your own tables.

Talk-in on 222.98/224.98 or 146.52.

For more information, contact Pat Cawthorne, WB3DNI, at (215) 672-5289. □

Virginia

The 1988 ARRL Roanoke Division Convention and 13th Annual Hamfest/Computer Fair — sponsored by TIDEWATERS RADIO CONVENTIONS, INC. — will be held at the Virginia Beach, Virginia Pavilion on Saturday and Sunday, September 17-18.

This beautiful indoor, air-conditioned facility, along with a well-presented show, is one of the very finest events on the East Coast. Don't miss seeing all the latest equipment that will be presented by Alinco, ICOM, Kenwood and Yaesu. In addition, there will be a full complement of dealers for both Amateur Radio and computer equipment.

Also featured will be a gigantic flea market, two days of various forums on DXing, computers, SWLing, ARRL-related subjects and plenty of programs to entertain the XYL and children.

This will also be a great time to visit the nearby beach and historic sites. ARRL VEC license upgrade exams will be given Saturday from 10 a.m. to 3 p.m. No registration necessary; just bring your original present license and a check for \$4.55 payable to ARRL/VEC. Show times are 9 a.m. to 5 p.m. Admission for both days is \$5 in advance or \$6 at the door (children under 12 free). Flea market tables are \$8 per day. Electricity for booths available at an additional cost upon request.

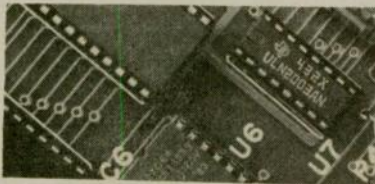
Talk-in on 146.97.

For information and tickets, call or write Manny Steiner, K4DOR, 3512 Olympia Lane, Virginia Beach, VA 23452; (804) 340-6105. □

Washington

The 42nd annual W7DP Hamfest — sponsored by the WALLA WALLA VALLEY ARC — will be held September 24-25, 8 a.m. (please turn to page 61)


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Howdy Days

The Young Ladies' Radio League (YLRL) invites all licensed women operators throughout the world to participate in Howdy Days, September 7-9. Operation will last from 1400 UTC, Wednesday, September 7 to 0200 UTC, Friday, September 9.

Procedure: Call "CQ YL."

Operation: All bands and modes of emission may be used. No crossband operation. A station may be worked and counted once on each band and mode for QSO points. Participants may operate only 24 hours of the 36 hours of the contest. Operating breaks must be indicated in the log. The maximum power output that may be used at any time during the contest is 750W on CW and 1500W PEP on SSB.

Suggested frequencies: CW — (80M) 3.540-3.570, (40M) 7.040-7.070, (20M) 14.040-14.070; (15M) 21.120-21.150, (10M) 28.180-28.210. SSB — (80M) 3.940-3.970, (40M) 7.240-7.270, (20M) 14.250-14.280, (15M) 21.380-21.410, (10M) 28.380-28.410 MHz.

Exchange: YLRL member or non-YLRL member. Entries in log must also show date, time, band, call of station worked, and operating breaks.

Scoring: Score 2 pts. for each YLRL member worked and 1 pt. for each non-YLRL member worked. *No multipliers.*

Logs: All logs must show if operator is

YLRL member or non-YLRL member to be eligible for awards. *DO NOT* send carbon copies of logs. Please print or type. Logs must be signed by the operator. No logs will be returned. Logs must show score and be received by October 10, 1988.

Send logs to: Carol Shrader, WI4K, 4744 Thoroughgood Dr., Virginia Beach, VA 23455, USA. Please mark your return address clearly.

Duplicates: For each duplicate contact that is removed from the log by the vice president, a penalty of 3 additional and equal contacts will be exacted.

Awards: Top-scoring YLRL member will receive her choice of a YLRL pin, charm or stationery. Top-scoring non-YLRL member will receive a one-year membership in YLRL.

NOTE: Since band allocations in other countries are often different than the USA, North American YL's should look for DX YL's in other parts of the bands, especially on 40 and 80M. □

Fall Classic and Homebrew Radio Exchange

The Classic Exchange is a celebration of the older commercial and homebrew equipment that was the pride of our ham shacks and our bands just a few, short decades ago. It will run from 2000 UTC, Sunday, September 25 to 0400 UTC, Monday, September 26.

Our object is to restore, operate and enjoy older commercial and homebrew equipment with like-minded hams. A Classic Radio is at least 10 years old — an advantage, but *NOT* required to operate in the Exchange. *YOU CAN USE ANYTHING*, although new gear is a distinct scoring liability.

Exchange: Name, RST, QTH, receiver and transmitter type (homebrew send final amp tube or transistor), and other interesting conversation. The same station may be worked with different equipment combinations and on each band on each mode.

Call: CW call "CQ CX," phone call "CQ Classic Exchange." Non-participants may be worked for credit.

Suggested frequencies: CW — up 60 kHz from low band edges; *Phone* — 3880, 7290, 14280, 21380, 28320; *Novice/Tech* — 3720, 7120, 21120, 28120, (phone) 28320.

Scoring: Multiply total QSO's (all bands) by total number of different receivers + transmitters + states/provinces/countries worked on each band and mode. Multiply that total by your Classic Multiplier, the total years old of all receivers and transmitters used, 3 QSO's minimum per unit.

If equipment is a transceiver, multiply age by 2. If equipment is homebrew, count it as a minimum of 25 years old, unless actual construction date or the date of its construction article in the case of a "reproduction" is older.

Certificates and appropriate memorabilia are awarded every now and then for the highest score, the longest DX, exotic equipment, best excuses and other unusual achievements. Send logs, comments, anecdotes and pictures to Jim Hanlon, 5560 Linworth Rd., Columbus, OH 43235. Include SASE for newsletter.

(1989 Classic/Homebrew Radio Exchange: January 29-30.) □

California QSO Party

The 1988 California QSO Party, sponsored by the Northern California Contest Club, will be held from 1600 UTC, October 1 to 2200 UTC, October 2.

Operation: Single-operator entries may operate only 24 hours; off times must be clearly marked in the log and must be at least 15 minutes long. Multi-operator entries may operate the full 30 hours.

Modes/bands: Stations may be worked once on CW and Phone on each band. All contacts must be simplex — no MCW. All CW contacts must be made in the CW subband, except for 160M.

California stations that change counties are considered to be new stations and may be contacted again for point and multiplier credit. California stations operating from a county line may be counted only as 1 QSO.

Object: Stations outside of California work as many CA stations in as many CA counties as possible; stations in California work anyone.

Exchange: CA stations send QSO number and county; stations outside of California send QSO number and state/province/country.

QSO points: Each complete phone contact

is worth 2 QSO pts. Each complete CW contact is worth 3 QSO pts.

Multipliers: CA stations use states and VO/VE1-7 and VY1/VE8 for a possible total of 58. Out-of-state stations use the number of different CA counties for a possible total of 58. CA stations on a county line may be claimed as a multiplier for any or all of the counties they give in their exchange.

Total score: The total score is the number of QSO points multiplied by the total number of multipliers.

Frequencies: 160 through 2M excluding 30 and 12M. CW — 1805 and 50 kHz up from the band edge. *Phone* — 1815, 3850, 7230, 14250, 21300 and 28500. *Novice* — 10 kHz up from the band edge and 28495.

Try CW on the half hour. Try 10M on the hour at 1700-2000Z. Try 147.54 MHz at 2000, 0000 and 0400Z. Try 160M at 0500Z; 80M at 0300 and 0700Z.

Logs: All logs and summary sheets must be sent to NCCC c/o Gary Caldwell, WA6VEF, 1830 Polk St., Concord, CA 94521 by November 15, 1988. Please include a business-size SASE for results. Entries of more than 200 QSO's must include duplicate sheets.

Awards: *Certificates* to the highest scoring single operator entry in each CA county, each state/province and each country, and each station that scores 100 or more QSO's. *Trophies* to the top three out-of-state single ops; the top three CA single ops; the top multi-single and multi-multi in California; and the high-scoring single-op and multi-op California county DXpeditions.

Special CQP Wine Award — The top 20 single operators in California, along with the top 20 single ops out of state, will receive a personalized bottle of Northern California Contest Club Private Reserve California wine. Wine winners who are under legal drinking age will receive a 1988 California QSO Party T-Shirt.

Special Trophies — Chairman's Award to the California single op who makes the most CW QSO's. Other trophies to the mobile single-op or team with the most total QSO's; the high-scoring low-power entry (200W or less) in California and out of state; the top Novice/Technician entry in CA and out of state; and the top club in California (Northern *(turn to next page)*)

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



you need one, where to install it and how to tune it), TVI — causes and cures, how to tie your computer to your radio, mathematics simplified, the vertical vs. the horizontal antenna, and how to install antennas.

All of the subjects that the person new to Amateur Radio needs to know are covered by practical demonstrations and explanations. The manual contains all 302 questions and answers that the student may find on their test, as well as a frequency chart showing where all license class operators may operate.

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For more information, write to Jerry Ziliak, KB6MT, Amateur Radio School, 2350 Rosalia Dr., Fullerton, CA 92635; phone (714) 990-8442. The Video Novice Course is just \$39.95, plus \$5 for postage and handling. □

Macket software

Macket provides power and flexibility for the packet operator with a Mac[®]. There are windows for entering text, displaying the receive buffer and logging transmitted text. These windows support all of the features, such as scrolling and text selection, expected by Mac[®] users. The input window also allows mouse-based editing. Other features include text uploading and downloading, printing and macro keys.

Macket works with all Pac-Comm TNC's: the TNC-200, TNC-220, Tiny-2 TNC and the Micropower-2 TNC, as well as any TNC which has an RS-232 port. When used with a TNC-2 clone that has the RXBLOCK command, Macket can display the user's conversations in a special window so the conversation will not be mixed with monitored text.

Macket's suggested retail price is \$39.95. The program, developed by S Fine Software, is available from Pac-Comm Packet Radio Systems, Inc., 3652 W. Cypress Street, Tampa, FL 33607; (1-800) 223-3511 orders only (except FL). Tech info: (813)-872-2980. □

The Video Novice

Amateur Radio School announces the newest addition to their line of code and theory courses on audio cassettes.

The Video Novice shows, on your TV set, a dramatic demonstration of subjects that are not easily understood by reading books. The course material contains two VHS video cassettes (each cassette is two hours long), one C90 audio cassette and a manual study guide. Cassette #1 has two hours of theory. Cassette #2 has one hour of theory and one hour of learning the code visually by high code speed with wide spacing.

The course is most effective in teaching the person who has very limited or no understanding of electronics. Actual demonstrations are shown on how to operate your radio, your first contact, SWR and how to measure it, how repeaters work, how to install connectors on coaxial cable, twin lead and when to use it, how antennas work, matchbox (when

World time clock

MFJ Enterprises, Inc. announces the release of a new MFJ-109 World Time Clock for \$18.95.

This new clock features a sliding indicator you can set to any of 24 international cities. It has a 24-hour world time display and a local time display with 3/8" LCD digits. It also has a Greenwich Mean Time (GMT) pointer for instant access to the international standard.

Other features include alarm with snooze, night light, adjustment for daylight savings time, date change indicator, suede-like carrying case and flip stand in an attractive gift

Worldradio = Information!

Contests

(continued from page 57)

and Southern CA Contest Clubs are ineligible).

A special thanks to Carl Cook, AI6V, of Wally's Rental Center, Concord, CA; Bruce Butler, W6OSP, of Paine Webber, Napa, CA; and Howard Brainen, WZ6Z, of Custom Process, Berkeley, CA, for their generous support of the Cal QSO Party. □

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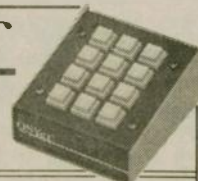
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'Easy-up' antennas

by Edward M. Noll, W3FQJ

Easy-Up Antennas for Radio Listeners and Hams is a practical antenna book for radio amateurs and prospective radio amateurs as well as for shortwave broadcast, FM broadcast, mediumwave broadcast, LW, UTE and scanner radio listeners. All of the basic and some of the more advanced antennas are covered. The antennas are easy to construct, erect and put into operation.

The handbook is in two parts: one for radio listeners and the other for hams. However, the contents of both parts are of value to radio amateurs and listeners alike, and the entire book should be read through one time, regardless of any special interest.

A special feature of the book are two detailed antenna dimension tables, one at the end of each of the two book parts. Dimensions for all of the basic antenna types are given for the various bands assigned for each radio service. Several of the columns provide the data needed to fabricate some of the more advanced antennas.

Other tables included provide sets of constants that are useful for making dimension conversions and in calculating antenna length for specific frequencies not given in the dimension tables.

Each antenna presented in the handbook was erected and tested by the author, except some of the commercial antennas mentioned in the text. Several of the latter were purchased and tested, too.

Chapter topics include: Basic Antennas and Their Construction, Antenna Tests and Comparisons, Vertical Variations, Dipole and Longwire Variations, Confined Space and Indoor Antennas, Antenna Fundamentals and Tests, Antennas for the New Novice Operator, and International Antenna Dimension Tables for Ham Radio Operators.

Easy-Up Antennas for Radio Listeners and Hams contains 157 8½" x 11" pages and sells for \$16.95 + \$2 PH (Pennsylvania residents add 6% tax). □

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New version 4.4 software

Engineering Consulting announces new version 4.4 software for the Super Comshack 64 Model CS64S (Commodore 64-based repeater control, autopatch and dual remote base) for the ham shack or hilltop repeaters. It features activity logging to the disk or printer of each user as they access the system. The call sign, log-on time, total usage time, as well as all functions performed while on the system, are logged to a disk or printer or both. Each user may now be assigned a unique user access code which the Super Comshack 64 recognizes, and allocates access privileges according to the control operator's wishes.

The new advanced software provides the control operator with the ability to assign each user various levels of limited system control once the user has sent his access code and is recognized by the Super Comshack control system. The Super Comshack system "speaks" the call sign of each station requesting access to a system function such as autopatch, remotes or system commands.

System control capabilities can be assigned according to the level of license or based on the level of system control desired. For exam-

ple, a Novice may not be allowed access to the HF or the VHF remote modes. Restricted autopatch and individual access to all control commands may be assigned as desired to each individual user. New users may be added to the system at any time by the control operator by updating the system parameter disk at any time.

The system can be reprogrammed remotely to switch over to up to nine sets of parameter files which each contain unlimited system variations. (A modem and packet input is planned to be available soon which will allow real time remote access to change parameter files.) A complete printout of the user assignments along with all parameters can be made at any time.

The new version 4.4 software supports up to 300 users and up to 1,020 18-digit telephone numbers which can be assigned in banks to individual users. Numbers greater than 20 are stored to the disk and are therefore retained even if the system is turned off. Another new feature is the ability to change the speed and pitch of the voice synthesizer. (please turn to page 61)

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The International Callbook lists over 500,000 licensed radio amateurs in countries outside North America. Its coverage includes South America, Europe, Africa, Asia, and the Pacific area (exclusive of Hawaii and the U.S. possessions).

The 1989 Callbook Supplement is a new idea in Callbook updates, listing the activity in both the North American and International Callbooks. Published June 1, 1989, this combined Supplement will include thousands of new licenses, address changes, and call sign changes for the preceding 6 months.

Every active amateur needs the Callbook! The 1989 Callbooks will be published December 1, 1988. Order early to avoid disappointment (last year's Callbooks sold out). See your dealer now or order directly from the publisher.

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New Products

(continued from page 59)

This allows the voice to be adjusted by the control operator.

To change system variables, each of the nine parameter files on the disk may be called up remotely by sending touchtone commands via the telephone or through the base receiver control input. Some variables may be changed by touchtone commands directly. The parameter files contain system variables including multiple voice messages and different sounding voices.

The new software includes unlimited text-to-speech pronunciation of all words in the English language. Verbal messages can be entered from the parameter files or from touchtones. Emergency messages can be created from touchtone strings which represent letters of the alphabet. Once entered without spaces between them, they are then pronounced as words by the system as ID tail messages or mailbox.

The version 4.4 software can be used with any REV 4 CS64S board and is available from Engineering Consulting, 583 Candlewood St., Brea, CA 92621 for \$59.95, which includes the manual and 90-day free revision upgrades. □

Hamfests

(continued from page 56)

to 5 p.m., at the Community Building in Milton-Freewater, Oregon.

The two-day event will feature: commercial displays, demos, meetings, license exams, swap tables, XYL activities, snack bar, potluck, prizes and much more.

Registration/admission is FREE! Swap tables (radio gear only, please!) are free. License exams are scheduled for 1 p.m. Saturday and 9 a.m. Sunday. **WALK-IN ONLY!** Please bring: photo identification, your original license plus one copy, and \$4.55. A pre-exam seminar on testing is scheduled for 10 a.m. Saturday. It will be conducted by Harry and Mary Lewis, our ARRL/VEC's.

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For further info, please contact: Paul Hamon, KA7VHL, 1412 Walla Walla St., Walla Walla, WA 99362; (509) 525-0512. □

West Virginia

The TRI-STATE AMATEUR RADIO ASSOCIATION ARA, Inc. will be sponsoring the TARA Hamfest '88 and Computer Fair on Saturday, October 1, at the Huntington Civic Center, Third Avenue at 8th Street, Huntington.

The event will last from 9 a.m. to 4 p.m. and will feature forums, a giant flea market, dealers and walk-in VE testing ... all indoors! No stairs for handicapped. Admission is \$4. Special: free commercial dealer set-up with paid admission — call N8IKP at (304) 523-5264.

Talk-in on 146.16/76.

For information, contact Charley Shumaker, N8IKP, P.O. Box 4120 Huntington, WV 25729, or at above number. □

If you're not subscribing to Worldradio, you're missing a lot of Amateur Radio news.

Product Review

R-X Noise Bridge

RICH ARLAND, K7YHA

Do you know what a left-handed monkey wrench is? Me neither. All I know is that when Dad needed one, I was sent out to procure same ... never did find the darn thing. Dad swore that in order to do the job correctly, he needed that left-handed monkey wrench.

Like the left-handed monkey wrench, the Palomar Engineers R-X Noise Bridge (henceforth called "the bridge") is one of those things that, when you need one, nothing else will do.

Palomar Engineers, P.O. Box 455, 1924-F W. Mission Rd., Escondido, CA 92025, has a terrific product line of accessories for the radio amateur. Among the gems that are contained in their catalog is "the bridge."

Essentially, the R-X Noise Bridge is a wideband noise generator and an RF impedance bridge in the same little box. The bridge can do a multitude of things, including: determining the resonant frequency of any antenna, and whether the antenna is too long or too short at a given frequency; presenting your tuner controls for lightning-fast band changing; finding the resonant frequency of series and parallel tuned circuits; measuring the values of unknown capacitors and inductors; and quickly tuning vertical and beam antennas.

Oops — almost forgot. You can test a balun with the thing, too. *Whew!* Talk about a versatile little device!

Speaking of little, the bridge is built into a rock solid die cast aluminum box measuring about 2½"W x 3½"L x 1"H. A standard 9V battery clips to the end for power. Controls consist of a reactance tuning knob (marked for X_c and X_l) and a resistance tuning knob (cleverly marked in ohms) that also functions as the on/off switch. The directions are crystal clear and show how to utilize the bridge to solve a number of unique RF problems.

Basically, the bridge is placed between an unknown circuit (usually an

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LONG ISLAND DX BULLETIN
PO Box 173, Huntington, NY 11743

antenna, transmatch or other tuned circuit) and a SW receiver. Depending upon the application, the noise generated on the receiver is nulled out (either by changing frequency on the receiver or twiddling the knobs on the bridge).

Once the noise disappears, either resonant frequency of the antenna can be read, or you can determine whether the antenna is too long or short for that particular frequency, or the particular setting for your transmatch at that frequency. The manual is very detailed about each application, so using the bridge to obtain some definitive info about your antennas is a snap.

Bottom line on the R-X Noise Bridge, by Palomar Engineering: quite frankly, I can't imagine life in the shack without it!! Honest, I don't know why I never obtained one sooner ... ignorance, I guess. The bridge is very well made out of quality parts in America by Americans!!! It is a versatile piece of test gear that will tell you more about your antenna system than any other single piece of test equipment. Price is about \$60, from Palomar Engineers. Tell 'em you saw it in Worldradio.

P.S.: Just thought of another application for the bridge ... making phasing lines or cutting precise lengths of coaxial feedline for testing antennas (you remember, even ½-wave multiples of a piece of coax repeat the feedpoint impedance).

Hook up the length of coax to the "unknown" port and the receiver to the "RX" port. Tune the desired frequency on the receiver, short the coax, adjust the reactance and resistance controls for a null, and you should be able to tell whether the coax is too long (X_c) or too short (X_l) for the desired frequency. A little snip here and a little snip there, and presto! A feedline of the correct length to get the job done. Absolutely-AMAZING!! □

16-year-old QSL!

An Amateur Radio operator in West Virginia, Clark Stewart, W8TN, worked a Cambodia station in 1971. He finally received his QSL this year, 16 years later!

—Jackson County ARA, Ripley, WV

Technical tip

Need a quick 2-band (2M and 450) antenna? Try a ¼-wave 2M antenna. Tune it up for 2M and it works reasonably well on 450 also.

—Mt. Vaca Radio Club, Sacramento Valley, CA □

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R390A RECEIVER PARTS: Info SASE. CPRC-26 military Manpack Radio, 6 meter FM, with antenna, crystal, handset: \$22.50, \$42.50/pair. Military-spec TS-352 Volt-ohm/Multimeter, leads, manual: \$12.50. \$4.50/piece shipping, \$9 maximum. BAYTRONICS, P.O. Box 591, Sandusky, OH 44870.

FCC UPGRADE sample exams and study guides on Commodore 64 disks. Technician or General \$12.95 each, Advanced or Extra \$14.95, postpaid. DR. G. SCHILLING, A161, 37251 Sage Road, Hemet, CA 92343.

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Alinco — 25	Ham Radio Outlet — 32, 33	Radio Place — 26
Anne Wright, N6BOP — 39	Handi-Tek — 45	Radio Works — 23
Antennas West — 6, 20, 24, 26, 29, 30, 49	Henry Radio — 2, 31	rf concepts — 24
Antennas, Rudy Plak — 3	Horizon Manufacturing — 46	RLD Research — 43
Antique Radio Classified — 48	ICOM — 64	Rusprint — 14
AVC Innovations, Inc. — 6	IMRA — 14	Sign-On — 8
AXM Inc. — 41	Jun's Electronics — 11	Spider Antennas — 41, 53
Azimuth Communications Corp. — 34	Kagil — 50	Stone Mountain Engineering Co. — 58
Bel-Tek — 10, 23	Kilo-Tec — 55	Synthetic Textiles, Inc. — 36
Benjamin Michael Industries — 54	Long Island DX Bulletin — 61	The DX Edge — 29
Butternut Electronics — 15	M. Bohnhoff Productions — 51	The Lanz Company — 44
C.A.T.S. — 28	Maxcom — 49	TimeKit — 43
Callbook — 60	MFJ — 13	Trac Electronics — 34
Cleveland Electronics — 17	Mike Forman — 63	Van Gorden Engineering — 4
Courage Center — 59	Mission Communications — 14	Visit Your Local Radio Club — 37, 38
Creative Control Products — 56	Motron Electronics — 27	Visit Your Local Radio Store — 58
Diamond Systems, Inc. — 47	N.P.S., Inc. — 18	W5YI-VEC — 16
Electronic Technology Today, Inc. — 55	N6KW QSL Cards — 4	W9INN Antennas — 30, 45
Engineering Systems — 51	Olympic View Graphics — 28	Western Electronics — 16
EPO Software — 36	P.C. Electronics — 21	Williams Radio Sales — 59
Fallert's Engraving — 7	Pac-Comm — 42	Wrightapes — 22
Gene Hansen Co. — 30	Pacificon — 19	Yaesu — 5
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