

JPL W6VIO CALLING



FCC GIVES AWAY (Part of) 220MHz

Downloaded from K6IYK-4 via Sid Johnson, WB6VWH

The following is a portion of a message I received on MARS HF a few minutes ago.

ARRL Bulletin # 81

FCC today adopted a report and order in General Docket 87-14, the proposal to reallocate the 220-222 MHz band to the land mobile service. In balancing the impact on existing users, emergency communications and the future amateur growth against land mobile requirement, the commissioners concluded that the reallocation was in the public interest overwhelming opposition. Wishing to reassure amateurs of its strong support for the service, FCC emphasized that the remaining 3 MHz of the band, 222-225 MHz, would be available to amateurs on an exclusive basis, thus removing the cloud that has hung over the status of the band for many years. The effective date of the reallocation will be announced later.

ARRL continues to oppose the reallocation and will pursue all available means to reverse [the FCC's decision]."

(Bracketed words a paraphrase since the link timed out after the word "reverse".)

MORE....

The Federal Communications Commission voted unanimously on Thursday morning to reassign the bottom two Megahertz of the Amateur 220 MHz. Band to the Land Mobile Service. The ARRL is filing a request for a re-hearing on the matter. Upon publication of the official action we will have 30 days in which to submit requests for reconsideration. Please begin formulating your request submittal now so you will be prepared to file in time.

however the FCC has suggested that we should begin moving our facilities immediately.

All is not lost yet. The political fortunes of an election year may still be able to be used to our advantage. Now is the time to schedule a personal meeting with your elected representatives and ensure they fully understand the impact of this action.

More to come..... -73- - Jim K6IYK @ K6IYK

AUGUST 1988

Volume 17

MAIL STOP

Jet Propulsion Laboratory
W6VIO CALLING M/S 264-419
Attn: Eileen McKinney
4800 Oak Grove Drive
Pasadena, California 91109

PRESIDENT: WALT MUSHAGIAN K6DNS
VICE PRES: JOHN TALLON N6OMB
SECRETARY: SID JOHNSON WB6VWH
TREASURER: JOEL MOSHER KB6RXE
TRUSTEE: STAN SANDER N6MP
EDITOR: EILEEN McKINNEY KA6DGV

Club Meetings: Second Wednesday of the month
at 12 Noon in 180-101. Everyone is welcome -
Bring your lunch.

Board Meetings: Fourth Wednesday of the month
at 12 Noon in 238-544. Everyone is welcome-
Bring your lunch.

Newsletter Article Deadline: The 5th. day of
each month. If the 5th. falls on a weekend,
the following Monday will be the deadline.

Your articles, ads, photos, diagrams, Letters
to the Editor, or technical instructions
should be submitted to Editor at address above.

EXCHANGE CLUBS PLEASE NOTE ADDRESS ABOVE IS
CORRECT ADDRESS FOR EXCHANGING NEWSLETTERS.

Permission is granted to copy enclosed articles
providing credit is given to "W6VIO CALLING".

DX NEWS by BOB POLANSKY N6ET

DX NEWS

According to the infamous McKinney clan, it's time for me to carefully go over the last few issues of the LIDX Bulletin and pull out all the meatiest DX news applicable to the local west-coast readers. As usual, there is a fairly good collection of possibilities for this month. In addition to that, the conditions have been fairly decent this month (except for 15 and 10 meters). Listen and judge for yourselves. Here's where to look and for whom—

CHAGOS - VQ9QM is active 20 to 40 kHz above the low ends of 10 through 40 meter cw. On SSB, look for VQ9ZM on 14183 kHz from 1400Z.

CONGO - TN4NW plans activity on alternate weekends from this rare spot 25 kHz from the low band edge on cw and on the following ssb frequencies: 3750, 7043, 14145, 21250, and 28490 kHz. He was worked on the west coast during his June operation.

EQUATORIAL GUINEA - 3C1JPS operates on 21310 kHz at 0200Z. This is late for W6-land, but is possible during the sometimes good conditions on 15 meters.

ICELAND - DK2OY/TF plan operation from 29 July on 14025 kHz from 0045Z. There have been lots of activity from this area of the world doing well into the west coast this month.

IVORY COAST - TU4CO causes pileups alternately on 21022 and 21235 kHz from 2100Z.

MOROCCO - CN8FB and CN8EK are active in many of the 20 meter dx nets frequently. Also, CN8FC is active on 28005 kHz from 1500Z during those rare 10 meter openings.

MOZAMBIQUE - C9MKT is permitted to operate from this rare location only 3 days per month. He's trying to get those operating privileges expanded.

RODRIGUEZ ISLAND - 3B9FR is dishing out US contacts from this rare spot from 1200Z on Saturdays. A bit early for the W6 gang, but not impossible if the right conditions are present. Look from 14190 to 14195 kHz.

TOGO - 5V7SA is workable on 14155 kHz at 2200Z, and on 21345 kHz from 1900Z. Other 5V7 stations check into the 14222 kHz Net at 0530Z almost nightly. I even QSOed one from Big Bear last month on the 222 Net.

ZAIRE - 9Q5HT plans activity from 25 July on both ssb and cw. He is ON5HT in disguise.

Enjoy!
Bob, N6ET



Dear JPLARC:

This is to thank all of you for your terrific support, not to mention the much-needed and much-appreciated battery pack, following my recent exciting week in the laboratory and hospital. Your gift gave me a real charge, as did hearing all your messages of concern and good cheer.

Thanks and 73's!

Stan N6MP

Thanks to all of you for your good wishes following my surgery in January. I'm happy to be a member of an organization with so many nice people!

MIMI STAPLETON WA6CWR

CONGRATULATIONS!

CONGRATULATIONS AND BEST WISHES TO THE CENTINELA VALLEY RADIO CLUB (CVRC) ON THEIR 35TH. ANNIVERSARY THIS YEAR! CONTINUED SUCCESS AND GOOD LUCK FROM JPL ARC.



MINUTES OF THE BOARD 27 JULY, 1988

Present: John Tallon, Courtney Duncan, Joel Mosher, Jim Kesterson, Rick McKinney, Sid Johnson.

John Tallon conducted the meeting as Walt Mushagian was on travel. John started off the meeting by reporting on the results of a meeting between the ECT and JPL's new safety coordinator Mr. Gil Duke. The ECT is to present a three part plan to Mr. Duke comprised of the following. 1. What are the immediate capabilities of the ECT and the Amateur Radio Club, and what are felt to be the immediate needs. 2. What is needed within the next 6 months. 3. What is needed to improve the system (repeaters etc.) for optimum communications capability.

John also reported that the 10,15,20 M beam on the roof of Bldg 171 has been repaired and is currently in good working condition. The 40 and 80 M dipoles were in poor condition and were removed. These will be rebuilt and reinstalled in the near future.

Rick McKinney reported on the club hot dog sales at the ERC picnic. The club sold 1500 hot dogs, expenses were \$405.00, leaving the club with a net of \$1094.00. This will cover this years field day expenses of approximately \$700.00 with about \$400.00 dollars left over.

Courtney Duncan reported that the new AMSAT satellite OSCAR 13 is in a near perfect orbit and was turned on for use by amateurs on Friday 7/22/88. Courtney made 12 contacts via the satellite on Saturday. AMSAT is in need of funds due to expenses incurred by this launch. The board voted to donate \$20.00 to AMSAT.

Courtney also reported on the current state of the club packet station. In early July the station was put on the air at the W6VIO site as a node using public domain software known as THENET a NET/ROM workalike. Within days the major NET/ROM nodes in the Los Angeles area lodged complaints that THENET was stolen software and was an infringement of copy write laws which protect the software (Software 2000) used by the major L.A. nodes. Shortly after a new version of Software 2000, version 1.3A, came on the air in which the new JPL node was functionally eliminated from participation in the major L.A. area nodes. Due to this controversy the JPL node has been taken off of the air and will so remain. The JPL packet station will be back on the air in the near future as a digipeater only. (The above report is a brief synopsis of the THENET-NET/ROM controversy. Any club member who would like full details surrounding this issue should contact Courtney Duncan or Walt Mushagian. Sid)

Sid Johnson
Secretary.

PACKET RADIO

By the time you received your last newsletter, the W6VIO:JPLPAS had become involved in a political battle and had to be taken off the air. The station in the shack has now resumed use of the callsign W6VIO with the alias JPLARC for digipeating. Soon, a digipeater, W6VIO-1 alias JPLPAS will be returned to service from a good local location. This will make possible one hop access to most of the 145.01 nodes in southern California. I've written a long position paper on our local political difficulties. I will be happy to send anyone who is interested a copy.

Current plans for digital activities beyond the digipeater mentioned above include a resumption of work on the emergency preparedness plan. These plans are long term, since their implementation may require a modest amount of money. If you are interested in participating or have ideas, get in touch with me.

Courtney Duncan, N5BF
238-600
354-8336

COMMUNICATING by COURTNEY DUNCAN N5BF

AMATEUR SATELLITES

AMSAT-OSCAR 13 ON LINE

AMSAT-OSCAR 13 is in operation and doing well! A "First Day" operating event was held on Mode B on July 22 with literally hundreds of participants transmitting in the 435 MHz uplink and receiving in the 145 MHz downlink bands. After a few initial concerns, most anomalies have been explained and users and satellite operators alike are shaking out their equipment and honing their operating skills.

So far, I've made about 15 contacts on AO-13, including PA3DCO near Utrecht, Netherlands, a JA1 near Tokyo, and numerous old and new friends here in North America. Excitement is high, now is the time to get into this state of the art activity which is destined to become more and more predominant in amateur radio in coming years.

Current orbital geometry places the satellite in view here for six or seven hour passes daily starting between 4 and 6 p.m. and ending between 11 p.m. and 2 a.m. local time. Modes B and JL are used alternately. To listen for the satellite, start at beacon frequencies 145.812 (for Mode B) or 435.651 (for Mode JL). Beacons transmit 10 wpm CW on the hour and half hour, RTTY at 15 and 45 minutes past, and BPSK (binary phase shift keying, digital data) the rest of the time. BPSK sounds like growling on sideband receivers.

To listen for user activity, try between 145.825 and 145.975 upper side band, Mode B. You will likely hear CW operations on the low end, USB on the high end, and a mix in the middle. If Mode JL is active, nothing will be heard on 2 meters, listen instead between 435.715 and 436.005 for mode L downlinks and particularly in the mode J sub band between 435.940 and 435.990 for those stations uplinking from 2 meters.

I would be interested in hearing any signal and activity reports from anyone attempting to monitor AO-13. I also have uplink and translation information for anyone who is interested.

The club station is inadequate for Mode B since the IC-211 receiver does not perform well on USB. Mode J may be workable since the IC-211 appears to transmit properly on LSB and we have an excellent 70 cm receiver in our more modern IC-471. I will be checking this out soon. We are looking for money to upgrade the club's all mode 2 meter rig (which is also the club's only 2 meter FM rig). Anyone have any ideas or suggestions.

The following schedule for AO-13 is based on orbital position. The reference time is perigee, 'MA 0.' This occurs at a different time each day so you really need a tracking program to make full use of the schedule, however, it does give some idea of the utilization of the satellite and what type of mix can be expected when listening.

Mode	From	Thru	Duration MA	Minutes
Off	MA 224	MA 31	64	171.7
Mode B	MA 32	MA 99	68	182.4
Mode JL	MA 100	MA 180	81	217.3
Mode B	MA 181	MA 223	43	115.3
Mode S (Mode-S operations will commence when sun angles permit; likely in September)				
RUDAK Concurrent with Mode L				

According to AMSAT-DL, this schedule may be changed without prior notice due to engineering tests and measurements.

NEW SATELLITES ON THE WAY

In other news, AMSAT has just announced that four new, small satellites, three of them supporting packet radio, will be launched next year, apparently in June. The following is an official press release on the subject. I'm told that, by the time you see this, similar information should have appeared in Aviation Week Magazine.

AMSAT Pioneers New Microsats

HR AMSAT NEWS SERVICE BULLETIN 212.05 FROM WA2LQQ
WARWICK, NY July 30, 1988
TO ALL RADIO AMATEURS BT

A consortium of Amateur Radio groups and a Utah college have teamed to construct and launch a new class of ultra-compact "microsatellites". They are so small they can be launched on virtually any launcher.

Three AMSAT organizations, AMSAT-NA, AMSAT-LU and BRAMSAT (Brazil AMSAT) have teamed with the Center For Aerospace Technology (CAST) at Weber State College, Ogden, Utah to produce four satellites. ARRL and TAPR are providing initial financial support and are assisting with design and construction.

Each satellite consists of a bus of common design which carries a mission-specific payload. AMSAT-NA and AMSAT-LU payloads are packet radio mailboxes (PACSATs). BRAMSAT's payload is a voice synthesizer and the CAST payload is an earth-looking, low-resolution CCD camera.

The most unique characteristic of each satellite is its volume and mass. Only 23 cm (9 inches) on a side, each cubical spacecraft weighs less than 10 kg (22 lbs). The small mass and volume make it feasible to launch these spacecraft inexpensively. And microsats can fit where larger ones cannot so many more near-term launch opportunities are available.

Microsats pioneer a new class of payload analogous to NASA's Shuttle Getaway Special canister (GAS can) only smaller. AMSAT has pioneered small satellites for nearly 20 years with roles in OSCARS 5 through 13.

A PACSAT is a packet radio store & forward communications satellite which can blanket every inch of the earth up to eight times per day. Two PACSATs will be built: One each for AMSAT-NA and AMSAT Argentina.

AMSAT Argentina had undertaken a satellite project of its own beginning in early 1988 but decided to collaborate with AMSAT-NA on the PACSAT project instead.

"We thought it would be most efficient to join with our colleagues from AMSAT-NA in the development of our satellite project," said AMSAT Argentina President Carlos Huertas, LU4ENQ. "We have found a way to incorporate many of our own ideas in the basic PACSAT design," Huertas said.

Arturo Carou, LU1AHC, says "The satellite will be jointly constructed but financed by Argentine sources and licensed in Argentina. When placed in operation, LU-SAT will be commanded from Argentina but will be available for non-profit use by Radio Amateurs worldwide."

BRAMSAT's Project DOVE (Digital Orbiting Voice Encoder) aims to "Be the first satellite specifically designed to transmit spoken messages that implicitly promote peace between the nations" says Brazil AMSAT President Dr. Junior DeCastro, PY2BJO.

Project DOVE's primary function is to make direct access to satellite communication available to the "average man". It will produce signals which can be heard on inexpensive VHF scanner type radios - the type commonly used to monitor police bands.

Its implicit message of peaceful use of space will flow from an explicit space education mission. "It will not become a propaganda machine for anyone," PY2BJO says. "BRAMSAT will have the voice synthesizer programmed for various languages to interest students in developing engineering skills...the kind needed to build devices like Project DOVE," DeCastro adds.

According to the mission plan revealed by PY2BJO, DOVE will transmit various telemetry parameters measured by its many sensors to provide a rich source of data on satellite in-orbit behavior. These data will be easily accessed by the "common man" because they will be transmitted in synthesized speech requiring no special receiving equipment; simply a VHF radio, a pad of paper and a pencil.

PY2BJO emphasized "This mission has immense educational value for anyone equipped with a simple VHF scanner. It's a window to space for students and scientists in many areas of scientific research seeking easy, reliable access to such data."

"The success of UoSAT OSCAR 11's Digitalker relaying SKITREK position data to perhaps 250,000 students and teachers equipped only with simple VHF radios has underscored our conviction there is great social value in Project DOVE," said Dr. DeCastro, PY2BJO.

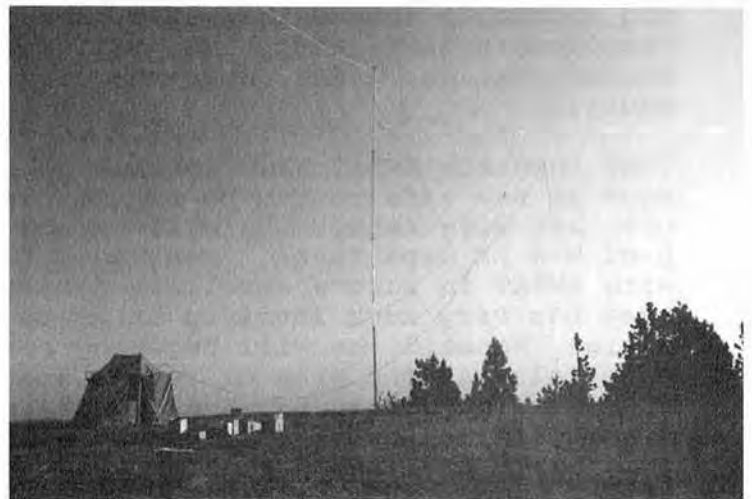
Construction of the four microsats has begun in a facility in Boulder, Colorado. Design activities are being carried out in Boulder and several other cities in the U.S., Argentina, Brazil and Canada. Several design reviews have already been completed.

AMSAT-NA has contracted for a 1989 launch for these microsats. They will be launched by Arianespace into a 822 km sun-synchronous orbit inclined 98.7 degrees. The primary payload will be the French SPOT-II mission. A June, 1989 launch is planned.

I've been working closely with the MICROSAT team for several months now and am aware of some of the tasks that need to be done. If any of you are interested in helping out, we sure could use you! Let me hear from you.

Courtney Duncan, N5BF
238-600
354-8336

Field Day Photos by Stan N6MP



Our thanks to the Johnson Space Center ARC for the following article via AMSAT

FROM AMSAT....

TONY ENGLAND RETIRING FROM NASA

2. Astronaut Tony England, WOORE, To Retire From NASA

Astronaut Tony England, WOORE, whose July 1985 shuttle flight brought the "Hams in Space" concept to new heights, has announced his retirement from NASA. He will leave the agency within the next several weeks to take a

teaching position at the University of Michigan, Ann Arbor. He cited the stretch out of the shuttle and space station programs and his desire to progress with his own agenda as underpinning his decision to leave the agency.

Dr. England, a geophysicist from North Dakota, had taken Amateur Slow Scan TV with him on his shuttle flight aboard the shuttle Challenger. Aside from an instrumentation anomaly on lift-off that caused an engine to be shut down early, the mission on the ill-fated Challenger was a success. And thousands around the world heard WOORE and many saw the images sent from Tony's SSTV setup. The SSTV beamed up to WOORE from the Johnson Space Center station, W5RRR, were the first live TV pictures ever received aboard shuttle.

Tony told the AMSAT News Service he will be moving to the Ann Arbor area as soon as his affairs can be set in order in Houston where he now resides with his wife Kathy. He will become Professor of Electrical Engineering at U of M's EE department. Tony said he is especially interested in working with AMSAT in future satellite projects and that his work at Michigan will keep him very much involved in space technology. Aside from his teaching duties, he said, he will be doing research in satellite technology especially in the area of remote sensing. Dr. England is a leading world authority on remote sensing and was co-investigator on the Shuttle Imaging Radar (SIR) experiment which was enormously successful.



LETTER TO THE EDITOR - Envelope read:

John -

Please pass along to Eileen and thank her for her good work on the Ham newsletter. - Lee Johnsen

TO: Eileen McKinney

July 19, 1988

As Editor of the "W6VIO Calling", you expressed regret that you have received only two letters to the editor during your seven-year tenure. You asked for it! Now you have received three (at least).

I am very disappointed in the process whereby a newcomer like myself gets a Novice license. I was encouraged by an enthusiastic Club member to take Mark Schaefer's Class and go for the Novice. Though I found the class was much less effective than reading books, I maintained enough of an enthusiasm level to persist and pass the exam. Since then I have been ignored.

What is the mechanism whereby fledglings like "Yo" stay tuned to the status of their Novice applications?

How long should it take (it has not been 2½ months)!

What am I supposed to do in the meantime? Can I use Club equipment to "listen"?

What is the mechanism for me to upgrade to Technician before I even have my first call?

What is the purpose of making the Novice privileges better if it takes forever to get the Novice license in the mail?

If your examiner makes a mistake on the forms he sends in, wouldn't it be nice for him to tell you they were rejected by the F.C.C. and that he has to re-submit them again?

When I return the form saying that I would like to help with Field Day, wouldn't it be nice for me to at least get a phone call?

Thanks for very little. I think I will get out my old stamp collection!

Lee Johnsen
264/747 3-0616

cc Mushagian
Woo
Skaletsky
Holladay
MacMedan

Dear Lee,

PUT THE STAMPS BACK ON THE SHELF - First of all since I am not involved in the "Education Process" I cannot speak for the volunteers who give generously of their time during their lunch hours, etc. to teach newcomers about Amateur Radio. It would be unfair of me to not point out that these poor gluttons for punishment DO NOT GET PAID, RECEIVE NO PERKS, AND SWALLOW A LOT OF CRITICISM AND COMPLAINTS from all of us. THEY ARE NOT PERFECT! WHICH ONE OF US IS? I went through the JPL ARC classes 10 years ago and as I am a radio "idiot" I must commend them for their patience, perseverance, and

kindness to me and to everyone in "my" class.

BUT, don't think that I can't identify with the frustration of an idiotic system that makes you wait 6 weeks to begin with (in this age of computers) and then when paperwork must be re-filed - wait another stupid 6 weeks to hear anything. BUT THE FIRST 6 INEXCUSABLE WEEKS I BLAME ON THE STUPID COMMISSION'S SYSTEM. THE SECOND 6 WEEKS ON HUMAN ERROR. You and I both make mistakes so we can identify with that. I'm sure that it was another oversight that the screw-up was not called to your attention when the paperwork had to be re-filed.

As far as Field Day and not being contacted. I KNOW THAT WAS AN OVERSIGHT! It was an oversight on the part of the committee because they want Novices out there for extra points and would never deliberately pass one up and it was an oversight on your part for not making sure that your form back to them didn't get lost in the DUMB OLD JPL MAIL MESS. Now you and I both know that that system stinks. You can't sit around and wait and not take the bull by the horns and call somebody up and say "Hey! I'm coming to Field Day."

DON'T GIVE UP AND DON'T BE A STICK-IN-THE-MUD. Join the group, come to the meetings, keep informed on what's going on and if you can't beat the system, join it and try to come up with positive solutions to some of the problems that you've mentioned. You're not the only Novice in the same boat. Many of us have been there in various ways - the difference is we have to all stick together and help each other out. YOU CAN'T BE SHY - ask questions and get answers! AND YOU CAN'T BE A COMPLAINING GROUCH in this world you have to join in the fun. I'm sure you're not a complaining grouch. That's just a figure of speech.

It took almost three months before I heard from the stupid FCC. They're the ones who ought to get their act together.

I'm sure with all the copies you sent out to the various people on your list you'll get replies to your letter. I hope I haven't created a MONSTER column.

Eileen

FOR SALE: Drake T-4X, R-4B, MS-4
80, 40, 20, 15, 10 Meters
200 Watts
Desk Mic, Johnson Low-Pass Filter
Heathkit AM-102 SWR Meter
Heathkit Antenna
\$250.00 OBO

FREE: Central Electronics Inc.
Multiphase Exciter, Model 20-A
160-10 Meters
With External VFO #45B

Yaesu FT-23R 2m HT
With Touch Tone Pad
Extra FNB-10 Battery
FBA-10 Alkaline Case
FTS-12 PL Encoder/Decoder
Nylon Case.
Cost 415.00, Sell 350.00 OBO

Scott Nolte 354-7657 Days

Thanks to Hughes ARC for the following

HAMCON 88

THE MAGIC OF AMATEUR RADIO
PUBLIC SERVICE • INTERNATIONAL GOODWILL

ARRL SOUTHWESTERN DIVISION CONVENTION

September 2, 3, & 4, 1988

at the

DISNEYLAND HOTEL

Anaheim, California

- Exhibits
- Prizes
- Ladies Programs
- Saturday Night Banquet
- VE Testing
- Wouff Hong
- Technical Sessions
- Breakfasts
- Special Activities
- T-hunt on Sunday

HAMCON 88 promises to be a great convention and for your sight seeing pleasure the attractions of Orange County are close at hand: Disneyland, Knotts Berry Farm, Movieland Wax Museum, and much more. Sponsored by the Orange County Council of Amateur Radio Organizations.

Convention registration includes validated parking and special hotel rates. RV parking nearby. Transportation available from surrounding area airports.

We invite you to mark these important dates down on your Convention Calendar.

JOHNSON SPACE CENTER AMATEUR RADIO CLUB

July 20, 1988

LEAGUE LINES

HR ARRL BULLETIN NR 70 ARLB070
FROM ARRL HEADQUARTERS
NEWINGTON CT JULY 2, 1988
TO ALL RADIO AMATEURS BT

THE SENATE IS NOW PREPARING TO JOIN THE HOUSE IN SUPPORT OF AMATEUR RADIO. SENATOR PETE WILSON OF CALIFORNIA HAS INTRODUCED SENATE CONCURRENT RESOLUTION 127, IDENTICAL IN MEANING IF NOT QUITE SO IN TEXT WITH H CON RES 317, INTRODUCED EARLIER BY REPRESENTATIVE DORNAN OF CALIFORNIA. LIKE THE COMPANION MEASURE, S CON RES 127 EXPRESSES THE SENSE OF THE CONGRESS THAT IT SUPPORTS AMATEUR RADIO AND AMATEUR RADIO FREQUENCY ALLOCATIONS. IT HAS BEEN REFERRED TO THE SENATE COMMITTEE ON COMMERCE, SCIENCE AND TRANSPORTATION. IRA GOLDMAN, LEGISLATIVE ASSISTANT AND COUNSEL TO SENATOR WILSON, WILL COORDINATE REQUESTS FROM OTHER SENATORS THAT THEY BE ADDED TO THE LIST OF COSPONSORS. SUCH RESOLUTIONS ARE NOT LEGALLY BINDING BUT DO INDICATE CONGRESSIONAL THINKING OF A SUBJECT. USUALLY SUCH A MEASURE PASSES SHORTLY AFTER A MAJORITY OF EACH HOUSE HAS AGREED TO BE COSPONSORS AR

HR PROPAGATION FORECAST BULLETIN NR 29 ARLP029
FROM ARRL HEADQUARTERS
NEWINGTON CT JULY 18, 1988
TO ALL RADIO AMATEURS BT

THE PROGRESS OF SOLAR CYCLE 22 HAS LOOKED BETTER RECENTLY. THE SOLAR FLUX PEAKED AT 193 ON JULY 1, A CYCLE HIGH BY A WIDE MARGIN. THE FLUX CURVE TURNED DOWNWARD THE NEXT DAY, BUT IT DIPPED ONLY TO 135, WHICH WOULD HAVE BEEN A NEW CYCLE HIGH AS RECENTLY AS MARCH OF THIS YEAR. THE FLUX WAS UP TO 157 AGAIN BY SUNDAY, AND SHOULD GO HIGHER.

THE HIGHER AVERAGE LEVEL OF SOLAR ACTIVITY WILL NOT AFFECT PROPAGATION IN ANY MAJOR WAY THIS SUMMER, BUT BY SEPTEMBER AND THROUGH EARLY SPRING THERE SHOULD BE A MARKED IMPROVEMENT IN BOTH COVERAGE AND SIGNAL STRENGTH ON 21, 24 AND 28 MHZ. THE 14 MHZ BAND IS ALREADY OPEN AROUND THE CLOCK MUCH OF THE TIME, EXCEPT DURING MAJOR SOLAR DISTURBANCES. PEAK CONDITIONS FOR 28 MHZ, AND POSSIBLY 50 MHZ, ARE AT LEAST A YEAR AWAY.

SPORADIC E SKIP, WHICH HAS DOMINATED 50 THROUGH 21 MHZ RECENTLY, IS DUE TO WANE. . IT WILL BE GONE ALMOST ENTIRELY BY EARLY AUGUST.

FOR THE FORECAST WEEK THE FLUX IS EXPECTED TO CONTINUE ITS RISE FOR A FEW MORE DAYS, BUT HOW FAR IS ANYONE'S GUESS. ONE THING IS SURE, HOWEVER. WE ARE OUT OF THE EARLY PHASE OF CYCLE 22 IN WHICH THERE WERE OFTEN STRETCHES OF SEVERAL DAYS WHEN SUN VIEWING SEEMED ALMOST A WASTE OF TIME. IT IS BECOMING MORE EXCITING DAILY AND IT IS VERY EASY TO DO. SEE EDITIONS OF THE ARRL HANDBOOK BACK TO ABOUT 1976 FOR MORE ON THIS FASCINATING GAME. THE HANDBOOKS ALSO HAVE QST REFERENCES ON PROPAGATION AND THE SOLAR FLUX.

AMERICAN SUNSPOT NUMBERS FOR JULY 7 THROUGH 13 WERE BETWEEN 65 AND 90 WITH A MEAN OF 78.0 AR

Via George W6ABW

ARRL BULLETIN 76 ARLB076
FROM ARRL HEADQUARTERS
NEWINGTON CT JULY 23, 1988
TO ALL RADIO AMATEURS

THE ARRL BOARD OF DIRECTORS HELD ITS SECOND 1988 MEETING IN HARTFORD, CONNECTICUT ON JULY 21 AND 22. PRESIDENT PRICE REPORTED ON THE TIRELESS AND MANY FACETED CAMPAIGN TO RETAIN THE ENTIRE 220 TO 225 MHZ BAND. A 90 DAY EXTENSION WILL BE SOUGHT FOR FILING COMMENTS IN THE NPRM, PR DOCKET 88 139, THE PART 97 REWRITE. COUNSEL WAS DIRECTED TO PETITION THE FCC FOR AMENDMENT OF THE RULES TO SUBSTITUTE THE SUB BANDS 144.275 TO 144.300 MHZ, 220.275 TO 220.300 MHZ AND 432.3 TO 432.4 MHZ FOR AUTOMATIC BEACON OPERATION. FURTHER, THE ARRL BAND PLANS FOR AUTOMATIC BEACON OPERATION FOR HIGHER FREQUENCY BANDS WERE AMENDED. GUIDELINES FOR VHF UHF SPECTRUM MANAGEMENT WERE ADOPTED FOR RECOMMENDED USE BY THE PACKET RADIO COMMUNITY.

IN A MOVE TO ASSIST IN SETTLING REPEATER COORDINATION DISPUTES, THE LEAGUE WILL OFFER ITS GOOD SERVICES TO ARRANGE FOR BINDING ARBITRATION THROUGH THE AMERICAN ARBITRATION ASSOCIATION. FURTHER, THE BOARD AFFIRMED ITS AGREEMENT WITH THE SPECIFIC TERMS OF THE FCC REPORT AND ORDER IN PR DOCKET 85 22 THAT THERE CAN ONLY BE ONE RECOGNIZED FREQUENCY COORDINATOR FOR A GIVEN BAND AND GEOGRAPHICAL AREA. ACCORDINGLY, FREQUENCY COORDINATORS IN AREAS NOT IN DISPUTE ARE ACKNOWLEDGED BY VIRTUE OF THE RECOGNITION ACCORDED THEM BY THE AMATEUR COMMUNITY. FURTHER, THE ARRL WILL SEEK AN FCC REAFFIRMATION OF THE PRINCIPLES SET FORTH IN DOCKET 85 22 IN SUPPORT OF FREQUENCY COORDINATION EFFORTS.

THE BOARD ENDORSED AN AFFINITY CREDIT CARD PROGRAM TO BE MADE AVAILABLE TO INTERESTED LEAGUE MEMBERS, WITH HALF THE DERIVED FUNDS TO BE ALLOCATED TO THE FUND FOR DEFENSE OF AMATEUR FREQUENCIES.

IN THE OPERATING ARENA, THE BOARD MOVED TO SUPPORT EFFORTS TO INCLUDE A COMPETITIVE AMATEUR RADIO ACTIVITY IN THE 1990 GOODWILL GAMES IN SEATTLE, AND ESTABLISHED THE PRINCIPLE OF AN AMATEUR AWARENESS DAY TO PROMOTE AMATEUR RADIO DISPLAY STATIONS IN PUBLIC PLACES. FURTHER, THE UTILITY OF THE SIMULATED EMERGENCY TEST AND WAYS TO ENCOURAGE NOVICE AND TECHNICIAN USE OF CW WILL BE STUDIED.

THE BOARD FURTHER ESTABLISHED THE GOAL OF DOUBLING THE NUMBER OF RADIO CLUBS IN SCHOOLS BY THE END OF 1991. THE FEASIBILITY OF CLUBS PROVIDING CLASSES ON PUBLIC BROADCAST AND CABLE TV WILL BE STUDIED.

THE FOLLOWING SPECIAL RECOGNITION AWARDS FOR THE YEAR 1987 WERE CONFERRED. TECHNICAL EXCELLENCE AWARD TO W7XC. INSTRUCTOR OF THE YEAR AWARD TO K7NUL. HIRAM PERCY MAXIM AWARD TO KA9WDE. PROFESSIONAL TEACHER OF THE YEAR AWARD TO WB2JKJ AND WB2MGP. INTERNATIONAL HUMANITARIAN AWARD TO WB2GQW.

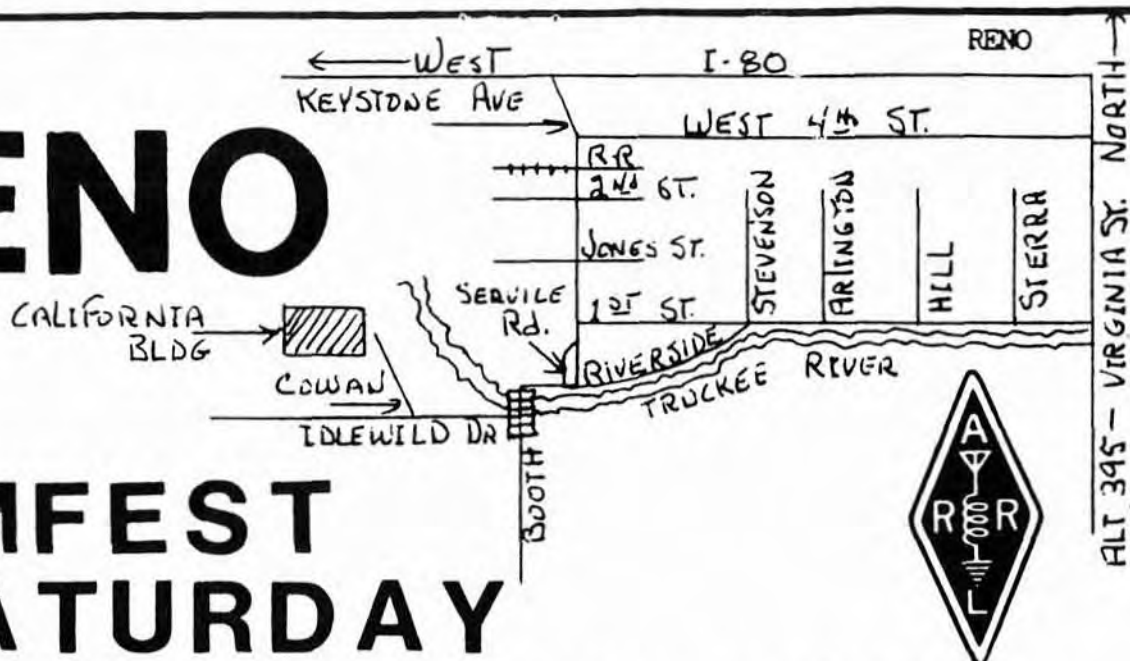
THE FEASIBILITY OF INSTITUTING A DEDICATED 800 NUMBER FOR MEMBER ORDERS TO HQ WILL BE STUDIED. DEVELOPING AN ENTRY LEVEL GUIDE FOR EMERGENCY COORDINATORS WITH SELF TEST WAS APPROVED.

THE 1990 ARRL NATIONAL CONVENTION WILL BE HELD IN KANSAS CITY, MISSOURI, JUNE 8 THROUGH 10, UNDER THE AUSPICES OF THE PHD ARA.

MINUTES OF THE MEETING WILL BE IN THE SEPTEMBER ISSUE OF QST. THE NEXT MEETING OF THE BOARD IS SCHEDULED FOR HARTFORD, CONNECTICUT ON JANUARY 20 AND 21, 1989.

RENO

HAMFEST SATURDAY AUGUST 20 1988



HAMFEST SPONSORS: NARA-SNARS-WADG, RENO AREA AMATEUR RADIO CLUBS
TALK-IN FREQ. 146.61-..147.30+..146.64-..224.46-..444.825+
WHERE:

CALIFORNIA BUILDING AT IDLEWILD PARK...FESTIVITIES START 0900 AM
MAIN DOOR PRIZE: TRANSCEIVER....2ND DOOR PRIZE: PORTABLE GENERATOR
THREE DOLLARS ADMISSION, INCL. ONE FREE DRINK(BEER OR SOFT) ONE CHANCE
FOR "MAIN" DOOR PRIZE--PLENTY OF GOOD FOOD TO CHOOSE FROM--DOOR PRIZES
GALORE--COLD DRINKS AVAILABLE--FLEA MARKET--NEW EQUIPMENT EXHIBITORS--
SWIMMING POOL WITHIN WALKING DISTANCE--KIDDIE RIDE PLAY-GROUND NEXT
DOOR--CONVENIENT PATIO FOR LUNCH, COLD DRINKS AND RAG-CHEWING--RUNNING
AND WALKING TRAILS CLOSE BY--FCC EXAMS BY THE RENO ARRL/VEC TEAM, REG-
ISTRATIONS ARE REQUESTED FOR FIRST SEATING (SEE FORM BELOW). BRING YOUR
ORIGINAL LICENSE AND A PICTURE TYPE OF IDENTIFICATION WITH YOU.
FEATURED SPEAKER WILL BE ARRL PACIFIC DIVISION DIRECTOR ROD STAFFORD
KB6ZV, UPDATING ALL OF US ON THE LATEST HAPPENINGS WITH THE LEAGUE AND
TO ANSWER ANY QUESTIONS WE MAY HAVE.

-----cut or tear-----

PRE-REGISTRATION RENO HAMFEST '88 SWAP-TABLES AND FCC EXAMS ONLY

For SWAP tables, make check or money order payable to SNARS.
Please reserve _____ Swap tables @ \$7.00 each....amount \$ _____
Please include a S.A.S.E. for your confirmation ticket.

Please reserve a place for FCC exam. Registration begins at 0800 AM
Send 610, copy of license, check/money order for \$4.55. include an
S.A.S.E. for conformation letter. Payable to ARRL/VEC.
NAME: _____ CALL _____

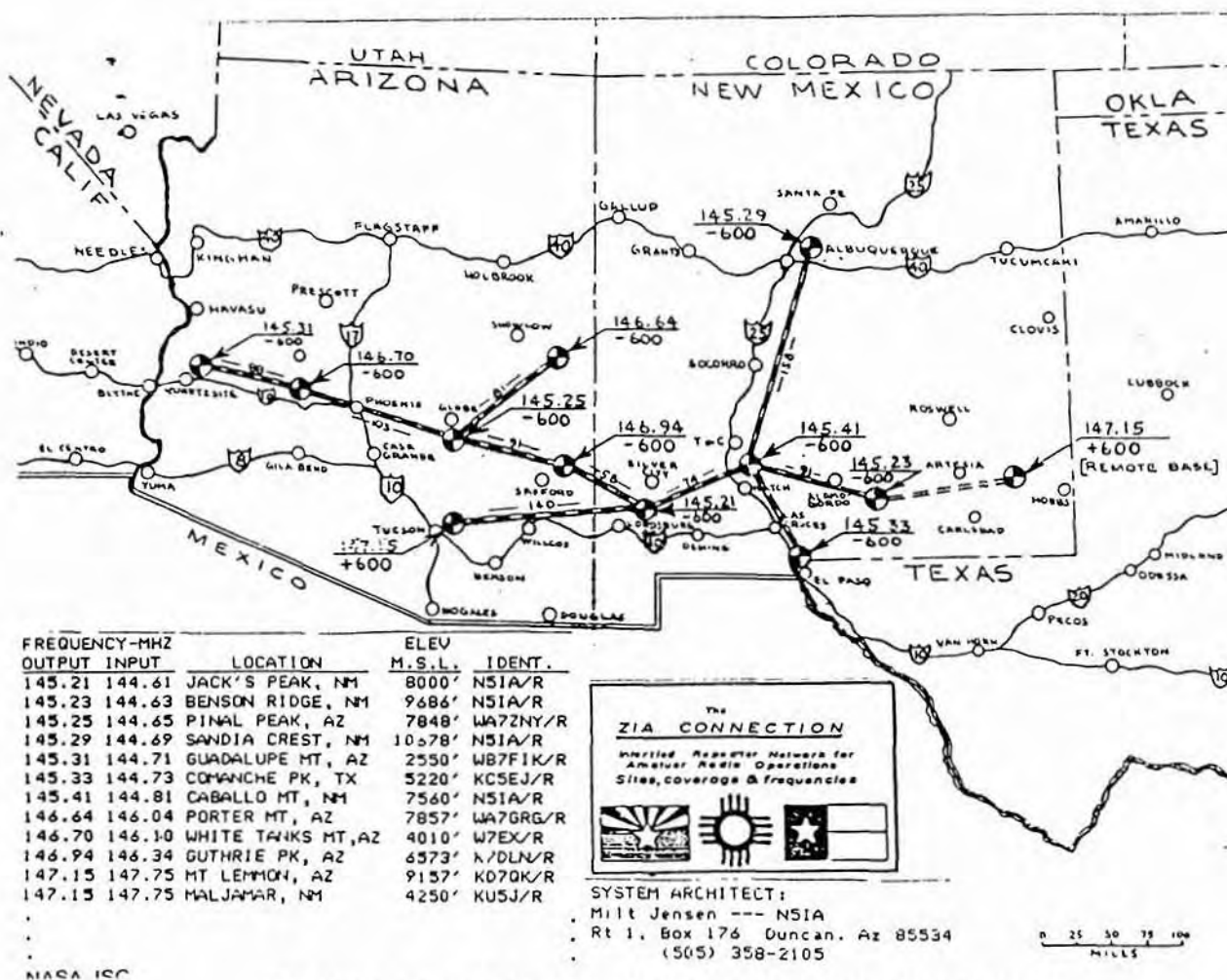
address _____ city _____ state _____ zip _____
SEND ALL FEES, INQUIRES, REQUESTS, DONATIONS, ETC, TO:

E.J. "CURLY" SILVA, K7HRW, CHAIRMAN
3780 HUMMINGBIRD DRIVE

RENO, NEVADA 89506..TELE: WORK 702-827-8450..HOME 702-972-3933

Heading Further West? Map of ZIA Connection thanks to Big Bend ARC. via Johnson Space Center ARC

ZIA CONNECTION: Heading west on vacation this year? Try the Zia Connection. It is amazing to talk from Phoenix or Tucson to Albuquerque and El Paso (and points in between). This map is old, but it should help you get started.



THANKS TO PASADENA RADIO CLUB FOR FOLLOWING:

*** — HAM SWAP MEETS — ***

2nd Saturday - General Dynamics Swap Meet, North of Interstate 10 Fwy on Haven, Pomona.

Last Saturday - T R W Swap meet, west of the Chevron station on the northwest corner of Aviation Blvd and Marine Ave (or Compton Blvd, which changes names at that corner), Redondo Beach.

LICENSE EXAMS ----- Call for information:

Lockheed	1st Sat	Burbank	Marie	818-848-9340
C.A.V.E.	Last Thurs	Long Beach	Reed	213-434-8278
SFVly ARC	1st Sat	Van Nuys	Bill	818-762-5095
SOCATT	1st Sat	Newport Bch	Ken	714-960-6973
Northrop	Last Sat	Hawthorne	Paul	213-316-2758

(Northrop will be on odd months after TRW @ 11:00)

LC4ELQ

TNX WESTCOAST ARC

Submitted by KA6NIY from FEEDBACK

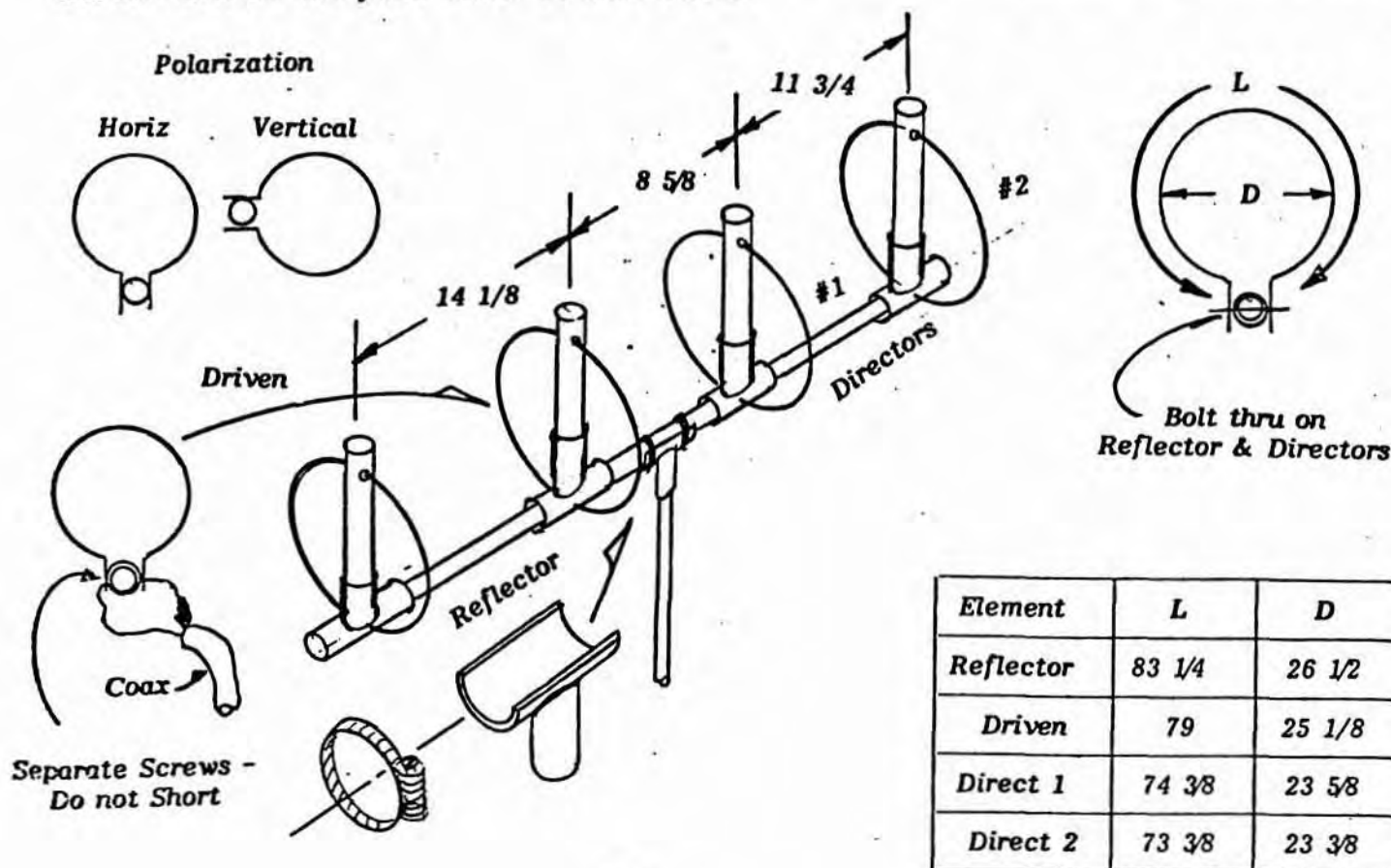
FROM K6DNS VIA HUGHES ARC - THANK YOU

No! It is not a rare Norwegian Island DX Station. It is the answer to the question of how to boost your signal and reception on 2 meters at the lowest cost. If you have a "hand held" and want to talk across L.A., like I did, or you want to punch your SSB signal into a "DX" state, or you just want to know where that signal is coming from, then read on. The Low Cost 4 Element Loop Quad (LC4ELQ) is for you.

The basic design is that of a quad antenna except that the elements are loops not squares; construction is simple and inexpensive. The wellstocked junk box can provide all the parts.

Figure 1 shows the complete antenna. It is fabricated from a boom and mast of 3/4 inch schedule 40 P.V.C. They are joined by a P.V.C. "T" fitting which has had the "T" bar cut in half and stem glued to the mast. The cut section is clamped to the boom with a couple of 1 1/2 inch hose clamps. The clamps allow movement of the boom for balance and rotation for polarity. Each loop is made from #8 aluminum ground wire (Radio Shack #15-036). To assemble the elements to the boom, drill 1/4 inch holes through the boom for the reflector and directors and pass 1/4 X 1 1/2 inch bolts through the boom with two washers at each end. Bend hooks on the end of the wire loop and pass them around each end of the bolt. For the driven element, drill a 5/64th inch hole through the boom and use a 1/2 x #6 screw on each side with 2 washers to hold the wire and feed line. 50 ohm coax is connected directly to the antenna. For SSB and other horizontal polarization, place the boom at the top or bottom of the loops. For FM or vertical polarization, rotate the boom and retighten the hose clamps with the boom to the middle of either side of the loops. If you intend to mount the antenna outdoors, three pieces of fishing line should be strung through the loops to keep them from changing their relative position as this will affect the SWR. The antenna will work well at any height but will improve in performance at higher elevations. Initial results were good with it located six feet off the floor in my shack. It is now mounted above my tribander at 40 feet.

Judi, WB6SKE, helped me with some "on the air" measurements; the results of which are shown in figure 2 along with SWR measurements. Phil, N4VN, built a copy in 45 minutes without buying any material. Why not try one yourself? If you do, drop me a line or give me a call and let me know how yours works. De Nick K6KTS



The invisible antenna

It forever amazes me to read the griping by the hams who are not allowed to put up antennas. The bad guy is either the landlord or an unfriendly homeowners' association.

Well, my friends, let me tell you how I have outwitted both, all these years. I have never been off the air, yet I have been moved around by my company, and had to put up with some very "user-unfriendly" situations.

We're talking HF now. No rubber duckies on 40 or 80M. That's what I mean when I say I have never been off the air.

First, a review of basic antenna theory. Do you remember looking in your Antenna Handbook and seeing how a vertical antenna works? It's something like you see in Figure 1. A 1/4-wave vertical, fed against ground, radiates as though it were a dipole antenna with one side buried in the ground. As a matter of fact, they always show the other "imaginary" half as a dotted line straight into the ground, as I show you in Figure 1.

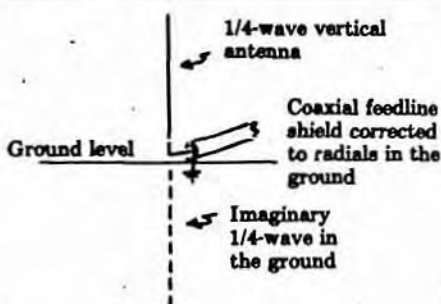


Figure 1

At one of the houses I rented, I discovered there was an old well casing in the ground. The well was unused because it was dry. I had the bright idea of connecting my coaxial cable shield to it, because I thought the casing was metal, and I expected to get a perfect ground. Well, it didn't work, because the well casing was made of some kind of plastic—a lousy conductor.

That landlord didn't mind my experimenting with antennas, and I put up a lot of different kinds. One of my experiments included dropping a weighted wire down into that dry well casing, and seeing if the vertical worked better having an honest-to-goodness wire down into the ground, instead of that dotted line. It worked, but no better than if I had put down a lot of radials.

One day, when I was taking a shower (I do my best thinking while in the shower. Other guys sing in the shower, but I think up new ideas there. But I digress . . .), I wondered what would happen if I turned that classic vertical antenna upside down, so that that dotted line "invisible" antenna was up in the air? I tried it, and *IT WORKED!*

See Figure 2. I lowered a 33' (1/4-wave on 40M) wire down the well casing, and this time I connected it to the center conductor of the coaxial cable. The shield was connected to the radials as before.

I'm not going to lie to you and say that everybody thought I had connected up a new linear, but the fellows I worked regularly on a net never even

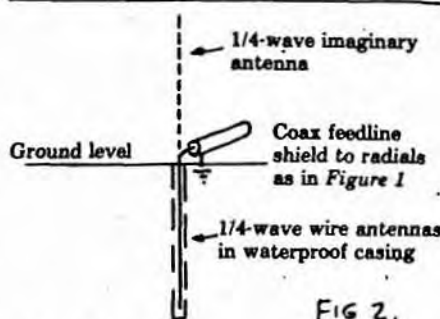


FIG 2.

Figure 2

noticed the difference! And that was with an antenna with everything under the ground level! The only conclusion I can come to is that the dotted line "imaginary" antenna was now up in the air—and radiating!

On my next move, I bought a spiffy condo and had to sign my life away with a restrictive covenant in my deed. It didn't bother me a bit. I bought a heavy-duty electric drill and an earth auger with extensions that would let me drill a 2" hole 33' deep. I dropped my 1/4-wave antenna down there and hooked everything up as shown in Figure 2. Did it work? Nope!

When I brought my antenna wire back up, I found it all wet. Apparently I had dug a pretty good well. So, how was this different than the other one? The only answer was the water. So I bought 33 feet of 1" PVC pipe, and carefully cemented the end closed and the splice joints watertight. I slipped this down my homemade well. It was difficult to get it to stay down, because it wanted to float out. I finally got it down the hole and fastened it to keep it from popping out of the ground. This time, when I put that 1/4-wave wire down there, it was dry—not shorted to ground. And I had the same results I had at the other place.

One thing I had always wondered about this discovery of mine. Could I patent it? I figured that if I could, I might be able to make a few bucks off it. A friend of mine who is one of those underemployed lawyers did some research for me. He discovered that the idea had been patented a long time ago, and that the patent will expire March 31, 1988. Wow, we're just in time. So all you antenna-less hams out there, feel free to start drilling those holes on April 1, 1988. Good luck. □

THANK YOU TO HUGHES ARC FOR THIS ARTICLE,