



# Crosstalk



Nary a contribution spurned

April, 1988

ARRL Affiliated

## PRESIDENT'S MESSAGE K2JF

This past month has been a very exciting and awarding month. You passed the Budget and have set in motion the necessary requirements for a Scholarship program. As directed by you we have established a committee for the scholarship fund and it is chaired by Dr. Gregory Potter (N2GSF). They will hold their first meeting in April and will start the ball rolling. There has been much paperwork and physical work done in regards to the Site but the chairman of the site will elucidate on that. This coming month, with the onslaught of spring, gives us all encouragement to get out and start the clean-up around the house and to put things in "Ship-Shape." It is also time for the week-end work parties at the Site, so come on out and have some fun at your site and let us get it in "Ship-Shape." Committee Chairman don't forget to put your reports into "CROSSTALK" so the members of your club will have a chance to see what is going on. We have much moving with all the special services under WB2OYQ; with all the Bike-A-Thons, Walk-A-Thons etc.; why your club will be doing many good services for the community. Don't forget N2HIS' request to get your inputs to "CROSSTALK" to him. He wants to make this a club paper and one that has your club news and not all news from elsewhere. I hope you all have a very fine Easter and don't eat too many jelly beans. Hope to see you at the meeting. K2JF.

## SITE REPORT BY WB2LNR

The club site is progressing very nicely. Club member Al Johnson donated a refrigerator that KB2GI and N2AJN transported to the trailer. W2GSN put up a vertical and provided a turner, so now W2MMD is on the HF bands with the Triton IV Ten-Tec transceiver and awaiting all you good operators to come on out and operate your station. K2JF, K2HPV & KD2CR installed some ground radials for the vertical and reported some very good contacts. A very nice console was donated by W2DWE and was transported and installed by WB2OYQ and K2JF who also set-up the station and WB2LNR provided legs for the station console. the complete area was cut-harrowed for us; now all we need is some help to plant Rye grass. The club storage shed was moved from WA2USI's qth to the site on March 22. (tnx to K2JF). The tower is very close to being raised and put in place. A new ceiling is in progress in the trailer thanks to W2GSN KB2GI and N2AJN. The septic system permit has been approved and in our possession; work should commence very shortly. Also the trailer now has "Home-Owner" insurance that covers the trailer and with the ARRL equipment insurance all our equipment is now insured. the site is now proud of its new National all mode 6 Meter Transceiver and work on the antenna is progressing. A layout of the site has been made tnx to

W2GSN. now that spring is here week-end work parties will start the week-end after Easter. If anyone wants to come at anytime to the site please call either W2GSN or K2JF. Remember the placed is alarmed so do not trty entry without the proper people with you. One MAJOR request: Does anyone have an instruction book for the AEA 220MHz ISOPOLE Antenna ? There is one at the site but we need instructions to enable us to asemble it properly. The site needs a heavy duty soldering iron. one that is at least 150 watts, the bigger the better. We have outside soldering to do and the 100 watt Weller just does not "cut-it."

C U at the meeting  
WB2LNR

DX  
by  
K2JF

There has been plenty of the DX around. The Solar Flux has been in the 100 to 120 and 20 meters is open just about all night..generally fades around 0300 our time but it bounces back around 0600 our time. Fifteen has been wide open and much DX is being worked on that band. When the solar flux get up around 103 and up, Ten pops open like a champagne bottle. The DX is there and now is the time for all you to go at it. The ARRL SSB contest was very good and lots of stuff was all over all the bands.

## COMMITTEE CHAIRMEN

ARRL REPRESENTATIVE	
K2HPV	
HAMFEST	NJ2B
CONSTITUTION	WA2NPD
AWARDS	K2ZA
SITE	WB2LNR
HISTORIAN	K2PQD
NETS	WA2TOP
ARES	WA2SEA
SUNSHINE	KB2EUA
MEMBERSHIP	WB2GSF
DATA PROCESSING	KB2COB
TECHNICAL	WA2TML
PICNIC	WA2GFK
SPECIAL SERVICES	WB2OYQ
HEALTH/WELFARE	KD2CR
HOUSE	KB2AB
BANQUET	N2JFM
TRAINING/TESTING	WA2VQG
CONTEST	K2HPV
FIELD DAY	KA2DOT
SCHOLARSHIP	N2GSF

## CROSSTALK

EDITOR	N2HIS
PRINTER	W2GSN
DISTRIBUTION	K2OWE
	N2FJQ
	KD2CR

## OFFICERS, 1988

President: John Fisher, K2JF  
Vice-President: Ed Sumek,  
W2GSN  
Recording Secretary: Beth Bar-  
nish, KB2EAL  
Treasury: Sonny Gutin,  
WB2DXB  
Corresponding Secretary: Mike  
Lipnitz, N2FKS  
Chaplain: Ed Stetser, K2JJC

## BOARD OF DIRECTORS

R. Layton, KB2COB - 3 year  
E. Ross, WA2ZND - 3 year  
W. Ashton, WB2OYQ - 2 year  
D. L. White, N2FKT - 2 year  
J. Barnish, WB2CAK - 1 year  
A. Trueblood, N2FJQ - 1 year

## TRUSTEES

J. T. Clark, KA2OSV - 4 year  
H. Spiece, NJ2B - 3 year  
H. Jackson, WB2GSF - 2 year  
M. Lizzio, WA2TOP - 1 year

## CLUB REPEATERS

147.78/18 MHz  
224.66/223.06 MHz  
442.100/447.100 MHz PL 20

## CLUB NETS

ARES:  
Time: Every Sunday, 8pm  
Frequency: 147.78/18 MHz FM  
Net Control: WA2SEA

10 METERS:  
Time: Every Tuesday, 9:30pm  
Frequency: 28.350 MHz USB  
Net Control: WA2TOP

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### Lowest Useful High Frequency (LUHF).

At certain frequencies of transmission, radio waves penetrating into the ionosphere, primarily in the D region and in the lower portion of the E region lose some of their energy by absorption. Absorption is at a maximum for frequencies of about 500 KHz to 2 MHz in the daytime, and decreases for both higher and lower frequencies at night. Finally a frequency will be reached for any given sky-wave path where the strength of the received signal just overrides the noise level. This frequency is called the LUF. Frequencies lower than the LUF are absorbed to such an extent as to render them too weak for useful communication. It should be noted, however, that the LUF depends on the power of the transmitter as well as on the distance concerned. Thus the term lowest useful frequency may apply to either day or night transmission.

## Summary for Variable Frequency

Assuming constant ionospheric conditions a constant distance, and single-hop transmission, (dreamer aren't I) it can be said that ---

(1) Frequencies considerable below the MUF will be attenuated greatly by nondeviative absorption.

(2) Frequencies somewhat below the MUF will be reflected as ordinary and extraordinary waves, either or both of which may be attenuated greatly by deviative absorption.

(3) Frequencies near the MUF will be reflected as ordinary and extraordinary waves, both of fair strength.

(4) Frequencies at the MUF will be received in the greatest possible strength as one wave.

(5) Frequencies above the MUF will escape and not be received, except as scattered waves (see IONO 6). Note an important fact to be borne in mind is that radio waves of fixed radiation angle are receivable at distances greater than the skip distance, but that as the distance is increased appreciable, increases attenuation results.

### Optimum Working Frequency (FOT)

Variations in the ion density of the ionosphere layers occur from day to day, and from hour to hour. Predictions on which the MUF's are based are made by averaging long-range observations and do not take into account these day-by-day fluctuations. Therefore, the actual upper limiting frequency must be selected at a value which will insure against the probability of the operating frequency becoming greater than the MUF for any particular day. For the F2 layer, the optimum work frequency thus is selected at approximately 85 percent of the MUF for that particular transmission path. The optimum working frequency for the combined E-F1 layer may be taken as the MUF, since the day-by-day variations in E layer ionization are

small. Of course, if the LUF is nearly equal to the MUF for a given transmission, the optimum working frequency must be selected at a value consistent with both. During moderate ionospheric storms, communication often can be assured by operating at frequencies slightly lower than normal, since critical frequencies are usually lower than normal during these periods.

The next, iono 9, will be on "Received Signal Strength."

C U in the Pile-Ups

JOHN K2JF

### FIELD DAY UPDATE by KA2DOT

It wasn't too long ago, or so it seems, when I had the thought, "Well, Field Day is over again. Sure seems like a long time to the next one." Surprise, surprise! It's getting near that time again, and when this comes out in print there will be less than three months to Field Day '88.

This year's event holds a lot of promise and new problems, which leads me to a very important matter: location. I consulted with most of last year's Band Chairmen and received varied responses as to where we should hold Field Day: at the college to at the club site. As your Chairman, I made my decision based on the responses and the logistics involved with both sites. Our club site won. All the equipment we normally haul out to the college, (i.e., portable tower, 2 generators, food tene, etc.) will already be on location. The generators will be in place and the cooking facilities, running water, and a lot more room are also available to us. I know we are all very familiar and comfortable with going to the college, but the positives of going to the club site outweigh the negatives by far.

Field Day this year holds a lot of "firsts." This is our first Field Day at our own club site. This is the first year that we are running our own generator, which means we are totally independent for

power now. And, unless our Historian corrects me, this is the first time we have a woman Band Chairman. Well, I guess now it's Chairperson. Anyhow, Beth Barnish, KB2EAL, snatched up 20 meter phone even before I could. Congrats, Beth. You'll do fine.

Now for the other side of the coin. With going to a new site, we unleash a whole set of problems that must be ironed out prior to Field Day. The club site is completely different from the college, and so will be the layout for stations, power distribution, and the tower. We have a larger area to set up on, but no idea who will go where. We have questions, such as "Once we know who goes where, what about power for the station, and where will the tower go? What if, by Field Day weekend, there is a permanent antenna mast where 15 CW goes?" On Saturday, April 30, at about 1:00 PM, I'd like to have all Band Chairmen, power crew, and Trailer committee at the club trailer to work out these details. I hope we can take care of all the details and layout that afternoon and be done with it. Band Chairmen, please be there so I can have your input as to where you might want to set up.

For all members that have joined since last June, I want to welcome you to our annual Field Day, and sincerely hope you come out this year. If you feel that you have absolutely nothing to contribute to the event, because you have never been to a Field Day, think again. I'm sure you have a skill or knowledge about something involved with the operation. If you never operated under contest conditions before, come on out and get your feet wet. If we have another rainstorm like last year's, more than your feet will get wet. But come out, watch, and I'm sure you'll get involved.

The following are Band Chairpeople so far:

80 PH - Jim Clark, KA2OSV  
80 CW - OPEN

40 PH - OPEN  
40 CW - Ken Newman, N2CQ  
20 PH - Beth Barnish, KB2EAL  
20 CW - Mike Blasenstein, N2HIS  
15 PH - Harry Spiece, NJ2B  
15 CW - OPEN  
10 PH - Dan White, N2FKT  
10 CW - Jack Zaruba, K2ZA  
6 PH - OPEN  
6 CW - OPEN  
2 PH - OPEN  
2 CW - OPEN  
220 PH - OPEN  
440 PH - OPEN

If I have left anyone out, my apologies for doing so, as it wasn't intentional. But if so, and you still want a band, call me ASAP so I can put you down. I have to let the bands go, on a first come first serve basis. I know I'm looking for a commitment early on, but we have to get organized earlier this year due to the location.

73, see you at the meeting.

**If you have never participated in Field Day, please read this.**

Field Day is an exercise in emergency communications, but is also terribly fun. Last year I missed out on a lot of fun because I wasn't really clear on what Field Day was or how it operated. I don't want anyone else to miss it too.

The main objective of Field Day is to give an exercise in emergency preparedness. Once you are prepared, you are to get as many contacts in 24 hours as possible. There are 16 possible Band Chairmen. Each Chairman is responsible for the radio, antenna, and a place to operate in (e.g., a tent, a trailer, etc.). No-one can operate in the club trailer because we have to be entirely self-sufficient. If it was there before, you can't use it, but this only applies to man-made objects. For example, if your station is right next to a 40-foot telephone pole,

you can't attach your dipole to it. But if your station is right next to a 40-foot tree, you can.

If you want to be in Field Day, but don't want to be a Band Chairman, ask one of the Band Chairmen if you can participate with him/her. But Field Day is not democratic.

Some Chairmen prefer to hand pick out their operating crews instead of being asked. It depends on the operator. Newcomers are always welcome. Your class of licence doesn't matter. For Field Day, everyone operates under the call of W2MMD, an Extra.

If you want to be a Band Chairman, you must contact KA2DOT. Your responsibilities are listed above.

Please, anyone, be a Band Chairman. It is fun for all concerned, and enhances the prestige of our club. If all the bands are spoken for, we will operate 16A, which is quite singular. It means that there are 16 transmitters operating from emergency power. One hardly sees any "A" operations past 10.

Field Day is fun for everybody, so don't be shy. You'll be glad you participated.

73, and hope to see you at Field Day - N2HIS

### **SPECIAL EVENTS FOR 1988 by WB2OYQ**

April 17, 1988 Jaycees Bike-I like  
KB2COB

April 24 Gloucester County Walk  
America WB2GSF

June 17-August 6 Radio Merit  
Badge sessions at Camp Roosevelt,  
BSA -- Need Chairperson

July 4th Pitman Parade

July 17 American Cancer Society  
Bike-a-Thon N2AIV

September 24-25 MS 150 -- Need  
Chairperson

October ?? BSA Jamboree on the  
Air at site

Hey guys and gals -- got your dates as early as I could. We need all the help we can get on these

events. In previous years we did it within our club. How about doing it again? It's lots of fun. Sign-up sheets will be at meetings.

### **CONTEST CORNER by Herb Schuler, K2HPV**

No biggee contests in April, but here are a few you can play around with:

April 9-10: North American QSO Party - CW

April 16-17: North American QSO Party - SSB

Georgia QSO Party

Canadian QST QSO Award Party

You can read about these various parties in QST. As mentioned last month, these are great opportunities to fill in the lists of things you are collecting. If you don't get QST, call me and I'll tell you about these contests.

Speaking of QST, if you are not a member of ARRL, and therefore do not receive QST you ought to consider joining. And for you younger people (less than 50 years), you certainly should consider LIFETIME membership because it is a real bargain. I'm not positive, but the rate is like 20 times the regular annual rate, so you pay for 20 years up-front and you have membership for the rest of your LIFE. And you have no future increases to worry about. If you are interested, see the Club Treasurer or myself if you wish, and we'll get the correct rates for you.

Now, you say, what about this MEGAPOINT thing we keep hearing about?! Friends, no fear, the time is near. I'm gonna tell you about it right now. The thing we are talking about is the MEGAPOINT AWARD made available to members by your club. The award was developed back in about 1977 by then Contest Chairman Ken Newman, N2CQ. The award consists of a real nice-looking certificate-type plaque, one that you would be very proud to display in your shack. The purpose for de-

veloping the award was to promote contesting among club members, and it still exists today for the same reason.

You get the MEGAPOINT Award by accumulating at least one million points in five certain contests. The contests are the VHF Sweepstakes, the ARRL Sweepstakes, the ARRL International DX Contest, the CQ Worldwide DX Contest, and the CQ Worldwide WPX Contest. There also are the five major contests we can enter as a club. So the MEGAPOINT Award hopes to promote not only contesting among the members, but also entry into those contests in which we can earn honors for the club.

Recognizing that some members only operate on the low bands, while others only operate on the VHF bands, a system was developed to make it about evenly difficult to win this MEGAPOINT Award. Weighting factors have been developed to do that, and here is how it works. Let's say Joe Ham, K2ABC, turns in a score of 10,000 in the VHF Sweepstakes, while Bill Key, KB2XYZ, has a good weekend and accumulates 500,000 points in the ARRL DX Contest. Each of these examples is a reasonable score. In other words, it's impossible to get 500,000 points in a VHF Contest. Joe Ham's score of 10,000 will be multiplied by the weighting factor of 50 to determine the points he will be given toward the MEGAPOINT Award (500,000). Bill Key's score in the DX Contest will be multiplied by the weighting factor of 3 to calculate the points he will be given toward the award (1,500,000). If Joe had a real good day, and had been able to get 30,000 points, he would have gotten the same 1,500,000 points as Bill.

So, each of the five contests has a weighting factor applied to it to arrive at the MEGAPOINT score given. The weighting factors are:

VHF SWEEPSTAKES	X 50
ARRL SWEEPSTAKES	X 5

ARRL DX CONTEST X 3  
CQ WORLDWIDE DX CONTEST  
X 2  
CQ WORLDWIDE WPX CON-  
TEST X 1

The basic reason for the differences in the weighting factors is because of the way each contest is scored.

All this means is, if you are going to enter your contest scores for the MEGAPOINT Award, you must submit your scores to the Contest committee (that's me). To make it real easy for yourself, when you participate in a contest, just give me your logs and summary sheets. I will take the information I need from the summary sheets, and I will send your logs and summary sheets to the proper location to enter the contest. It's that easy!! In fact, we will forward any logs and summary sheets you get to us for any contest, MEGAPOINT or not, ARRL or not -- any contest!! We just want to promote contesting and we want to make it easy for you. So give me any entries at any time, and I will see that they are forwarded in a timely fashion to wherever they have to go. What we do is bulk them together with the entire of other members, so you don't envelopes, addresses, or postage. A friendly service of your radio club!!

If you have any questions about anything in this column or anything relating to contesting, just ask. That's the way you find out. I could write a book and not answer every question everyone has.

Here are some recent contest scores submitted during the month:

ARRL INTERNATIONAL DX  
CW: K2JF 77526  
K2HPV 8280

ARRL INTERNATIONAL DX  
SSB: K2JF 119301

If anyone has any logs from contests, please get them to me for MEGAPOINT credit and mailing. I heard a few of you in there during

the contests, so don't be bashful. Don't think your few points are of no consequence. To show you how important your entry can be, we need one more entry to qualify for a club entry in the CW contest shown above, and two more entries for the SSB contest. So even if you only had a few contacts, make out the log and summary sheet and send them to me. Call me if you need sheets. It would be nice if we had a club entry in each of these contests.

See you at the April meeting and 73!

### DE KB2COB

April 17, 1988 is fast approaching, and the resources of the Gloucester County Amateur Radio Club will be busy at work. Once again the Gloucester County Association for Retarded Citizens will be needing our help to provide safety for their annual BIKE-HIKE. This is a major county-wide fund raising event, and we were asked this year this year to provide 38 units. To date, 36 members have generously volunteered their time and equipment. Two more units are needed to fill the request and a few backup units would be nice. If you would like to be part of this great event, PLEASE contact me ASAP. Your help is greatly appreciated. I would also like to take this opportunity to thank the thirty-six members who have already volunteered their services; I greatly appreciate your support and I know the retarded citizens of this county do also. See you there on April 17, 1988.

### GCARC SCHOLARSHIP FUND

At the March general membership meeting, after a lengthy discussion, a motion was made and carried by the majority of members present to continue the necessary committee work for the development of a long term scholarship fund. It was also agreed to put five hundred

dollars into escrow for an initial award to be presented in June of 1989.

This brings me to the point of this article. A great deal of work is still needed to complete the development of criteria for this program. Now is the time to get on the bandwagon by volunteering to serve on this committee. Please do not make the mistake of thinking someone else will do it, or that your ideas are not so good or someone else will think of it. That will not be the case, and the end result will be sudden death of the program for lack of commitment and interest. If you are willing to serve on this committee PLEASE call me, Bob Layton, KB2COB, or John Fisher, K2JF. If you have input for the committee and find it impossible to participate, PLEASE put your thoughts in writing and submit them to either John or myself.

73.

### SUPPLEMENT

KB2EAE G FRANK MILA-  
NOWSKI

KB2ETQ T DONATO J. SAM-  
MARTINO

W2MMD E SITE GCARC  
P.O. BOX 370 PITMAN, NJ  
08071 609-478-4738

### SWAP & SHOP

NEEDED - Manual for Heathkit Model IM-38 AC vacuum tube voltmeter. Will copy and return Contact Jack Zaruba, K2ZA

FOR SALE - ICOM 28H VHF  
tranceiver. Interested parties please contact Jerry, KE2CK

**25 YEARS AGO**  
by Harry McCormick,  
WA2SEA

The April, 1963, issue of Crosstalk was the first issue to use an outside cover featuring the club emblem. This same type of cover had appeared until December, 1987; the last few months it was reduced to one half page.

This month's program was a "White Elephant Sale."

Jack Layton, K2JKA, had a technical article in this month's issue on "Key Clicks or Overloading Problems."

Profiles of a Ham featured Charlie Sketchley, K2PQD. It is interesting to note, Charlie was using a Hallicrafters HT-32 transmitter, SX-101 receiver, and an HB-1, a home brew linear amplifier.

The attendance at this month's meeting was 41.

Door prizes were given out at each club meeting.

A drive was on to get call sign licence plates in New Jersey.

**10 YEARS AGO**

1978 was the first year for the Megapoint Award; about twenty-five club members were working towards this award. It looks like four or five will receive the award this year.

The FCC prohibited the production of 24-35 MHz amplifiers. Amateur Radio operators may build their own amplifiers covering this frequency range, but it is illegal to sell them.

Up until this time, Technicians could not use 2 MHz of the 2 meter band; effective March 24, this ruling was rescinded.

An article by Tony Starr, WA2FZB, on QRP operations appeared this month. Also a technical article by John Fisher, K2JF.

The FCC put a new Amateur call sign structure in effect on March 24.

The club was meeting in the National Park Municipal Hall.

**WHAT TO DO WHEN  
147.18/R GOES DOWN**

If the club 2 meter repeater on 147.18 MHz is off the air, please use our back-up simplex frequency of 147.54 MHz.

When the repeater is off the air on Sunday evening at 8:00 pm, instructions will be announced as to ARES net frequency on 147.18S and 147.54 MHz.

You are welcome to use the repeaters on 146.895 MHz and/or 147.225 MHz. We have standing permission for GCARC members to use those repeaters.

-Tnx WA2SEA

**REPEATER UPDATE**  
by Michael Lipnitz, N2FKS

As you are all aware, the club 2 meter repeater was taken off the air between February 29 and March 13 for a complete overhaul and repair due to problems that arose from water damage at the site. The following is a critique of what was done to make the new GE equipment more reliable.

In the receiver, it was found that the RX element was walking off frequency with changes in temperature. After contacting ICM, who we purchased the crystals from, we were given the value of range capacitors to use, so as to keep the element on frequency over a wide temperature range. Looking further into the receiver, we noticed more corrosion had built up in the squelch circuit making it impossible to get a stable signal level to apply to the controller. Also, one of the crystal filters in the IF section was bad, causing the distortion of the received audio signal. Both stages of the IF section were replaced and extra filtering added. This was done to eliminate the adjacent channel interference from the 147.195 machine, and to improve the audio response. An added benefit from these modifications was a

better DMTF response and more off channel signal rejection.

This receiver and RF preamp now offer .15 microvolts of sensitivity and at least 60 dB adjacent channel rejection.

An on the air test was done and a slight amount of desense was noticed. We then went after the duplexer and cleaned and retuned it according to specs. The receiver was also relocated to an RF-proof metal box.

On the transmitter side, the TX element needed the same work as the RX element. In addition, the input coupling capacitor was changed to a value that produced a more natural audio sound without all the base response of the original value. We then shielded the transmitter in the same fashion as the receiver.

With all the RF and audio problems straightened out, it was time to adjust the levels into and out of the controller. The synthesized voice and the courtesy tones were reduced 4 kHz and 3.3 kHz of deviation, respectively. The overall TX deviation out of the transmitter was set to a maximum of 5 kHz of deviation. Finally, the receiver input was adjusted to give as natural an input to output relationship as possible.

Fred, KB2BF, and I, N2FKS, would like to thank the members for their patience and understanding. We feel we now have as good a repeater as this equipment can deliver.

See you on the airwaves & 73's

# 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*.

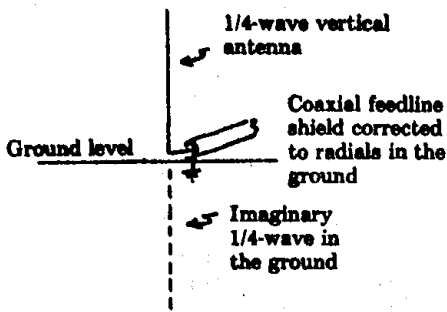


Figure 1

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

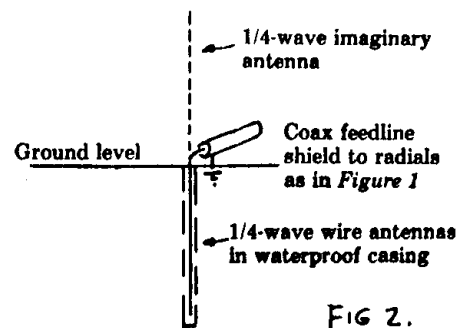


FIG 2.

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. □

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# HAMDOM THIS MONTH

APRIL 1988

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2 GARTG SSVV CONTEST ----- SP-DX CON.-FONE ----- SITE PARTIES EVERY WEEKEND AFTER EASTER
3 GARTG, SP-DX CONTESTS ----- GCARC ARES NET ----- SITE WORK PARTIES	4	5 TEN METER NET ----- 28.350 MHZ USB. 2100 ET	6 CLUB MEETING WOODBURY VFW 8:00 PM-??? ----- WEST COAST QUALIFYING RUN	7	8	9 *N. AMER. QSO* *PARTY, CIJ* -GARTG RTTY- CONTEST- *QRP ARCI QSO* *PARTY* -CT. QSO PARTY- ISRAEL CONTEST!
10 -N. AM. PARTY- *RTTY CONTEST* -QRP PARTY- *CT. PARTY* ----- GCARC ARES NET 147.78/.18 FM 2000 ET	11 ARRL VHF/UHF SPRING SPRINTS	12 GCARC 10M NET	13 HAMFEST MEETING AT THE SITE 8PM ----- WIAW QUALIFYING RUN	14	15	16 GA, QST AWARD, & N. AMER. QSO PARTIES ----- HOLIDAY IN DIXIE QSO PARTY ----- FLEMINGTON FEST
17 GA, N. AM., QST QSO PARTIES ----- GCARC NET 147.78/18 2000ET	18	19 GCARC 10M NET ----- ARRL SPRING SPRINTS 220 MHZ	20 DEAD LINE FOR CROSSTALK ----- BOARD MEETING	21	22	23 HELVETIA CONT. ----- NC, QST QSO, RAT'S NEST QSO PARTIES ----- TRENTON H'FEST APR. 23-24
24 GCARC NET ----- HELVETIA, NC, QST, RAT PARTIES WIAW QUAL. RUN ----- WILLINGBORD HAMFEST	25	26 GCARC 10M NET	27 ARRL SPRING SPRINTS ----- 432 MHZ	28	29	30 FIELD DAY BAND CHRMN. MEETING 1PM AT THE SITE

PENNSAUKEN 'FEST APR. 24



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Congress of the United States  
House of Representatives

February 25, 1988

ENERGY AND COMMERCE COMMITTEE  
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AND COMPETITIVENESS  
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HUMAN SERVICES  
HEALTH AND LONG-TERM CARE

Honorable Dennis R. Patrick  
Chairman  
Federal Communications Commission  
Room 814  
1919 M Street, N.W.  
Washington, DC 20054

Dear Mr. Chairman:

I am writing to express my concern regarding the Federal Communications Commission proposal to reallocate the 220-222 MHz amateur radio frequency band from amateur radio to land-mobile radio.

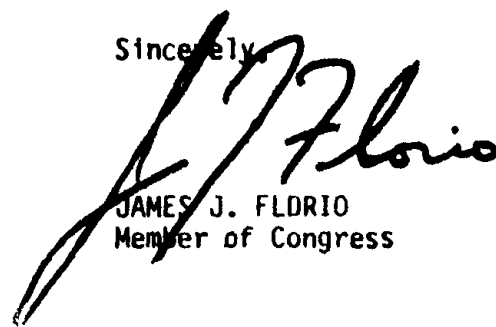
On behalf of amateur radio operators in New Jersey who form an indispensable communications network during emergencies, I urge you to reject this proposal. As you no doubt can see from the strong opposition expressed by amateur radio operators, the proposal contained in Docket 87-14 would adversely affect amateur radio operators on a number of levels.

We are all aware of the valuable contributions amateur radio operators offer during emergencies. The amateur radio operators also use the 220-222 MHz amateur radio band for a number of other important applications ranging from research for "weak signal" techniques, packet-radio communications techniques, radio control of repeater stations in addition to high-volume emergency communications.

The reallocation of the 220-222 MHz band would not only pose a financial hardship on many amateur radio operators whose equipment will no longer be applicable, but will also severely restrict our nation's emergency communications network. I urge you and the other commissioners to reject the reallocation of the 220-222 MHz band.

With best wishes,

Sincerely,

  
JAMES J. FLORIO  
Member of Congress

JJF:sel