

March Meeting

The March Hampden County Radio Association meeting will feature a talk on HF propagation by Dr. Rene Dube, Professor of Electrical Engineering at Western New England College. Dr. Dube has been an instructor at Western New England College for many years, and has a considerable background in RF. For the past several years, he has been doing consulting work for the United States NAVY on HF propagation. His talk will provide useful knowledge on how to select the proper frequency for the desired communications path. Although Dr. Dube will speak from an operations point of view, some discussion of the theory of how radio waves propagate through the ionosphere will be included. In his work, Dr. Dube has used various types of computer modeling to predict and select the best path. The meeting will start at 8PM Friday, March 6, 1987, at the Feeding Hills Congregational Church, in the center of Feeding Hills, MA.

Technician Changes

An unexpected fallout of the Novice Enhancement is the split of Element 3, the current Technician and General class written exam, into two exams. Presently Element 3 requires that Technicians be knowledgeable about General class privileges. The FCC felt that to require any applicant to be knowledgeable about privileges which the license does not authorize is inconsistent and a burden upon both the applicants and instructors. Technician class questions will be placed into an Element 3(A), and General class questions into an Element 3(B) VEC question pool. Thus, VEC's will now have to revise Element 3 in order to move certain questions to Element 2, and divide the remaining Element 3 questions into the two sub-elements as appropriate.

Support the HCRA!

Novices Enhanced!

On January 30, the FCC announced that it had approved most aspects of the ARRL's Novice Enhancement proposal, PR Docket 86-161, ushering in sweeping changes for Amateur Radio's entry level license. On February 10, the FCC released the text of the Report and Order in PR Docket 86-161, Novice Enhancement. **The rules become effective 0001 UTC March 21, 1987.**



On April 18, 1986, in response to several petitions, including one from the ARRL as authorized by its Board of Directors, the FCC adopted a Notice of Proposed Rule Making (NPRM) proposing to enhance Novice amateur privileges. The FCC proposed to authorize Novices voice and digital privileges in the 10 meter, 1.25 meter (220 mhz), and 0.23 meter (1270 mhz) bands with transmitter peak envelope power maximums of 200 watts, 25 watts, and 5 watts respectively. The FCC also requested information about changes in the number of Novice examination questions, the number of Volunteer Examiners (VEs), and whether a better balance between the requirements and privileges of the Technician license should be sought.

The purpose of the proposal was to motivate prospective amateurs to join our ranks, to stay with our hobby, and to advance through its five-tier licensing structure. The Commission wanted the licensing structure to become more responsive to the needs and desires of the amateur community.

The FCC received more than 350 comments on the proposal. More than 80% supported it, believing that enhanced Novice privileges would attract and retain more persons in the Amateur Service. Dissatisfaction with the telegraphy-only privileges was blamed as a major cause of Novice operators dropping out of

Amateur Radio. Manufacturers and distributors of Amateur Radio equipment said they hoped that the Novice Enhancement would curb both the loss of operators and the declining sales of equipment.

The major concerns in the comments dealt mostly with the fear that excessive privileges for Novices could diminish the incentive to upgrade to a higher license class. There was also a concern that the expansion of the Novice subbands could jeopardize the usefulness of the amateur beacon system on 10 meters. The ARRL, in its comments, stated that amateurs traditionally observe voluntary operating restrictions when necessary for the protection of beneficial operations like the beacon system, and that should not be an area of concern. About 5% of the people responding were apprehensive that Novice phone privileges in the 10 meter band could attract unlawful operators from the nearby 11 meter band.

The comments the Commission received generally concurred that the Novice written examination should closely correspond to its privileges. They favored increasing the written examination to 30 questions or even more. The repeated concern was that Element 2 (the Novice written exam) should not be so difficult as to discourage newcomers.

The ARRL had requested two Volunteer Examiners (VEs) to administer a Novice examination. This was to minimize the possibility of examination fraud. A number of comments also recommended that the Novice examinations be prepared and administered under the Volunteer Examiner Coordinator (VEC) system. The ARRL had opposed this approach because it would increase the burden on the VEC system and possibly reduce the availability of examinations.

Thanks

This issue of *ZERO BEAT* was brought to you by: The *ARRL Letter*, KA1KPH, CQ K1BE, KB1XD, N1FJ, NoBARC, WB1EYL, KA1LXT, *QRP Quarterly*

continued from page 1

The FCC said that the possibility of enhanced privileges for Novices has already stimulated growth in the Amateur Radio Service. In the 12 month period between October 1, 1985 and October 1, 1986, nearly 21,000 new persons entered the Amateur Radio Service, an increase of 20.75% over the previous 12 months. Furthermore, the number of licensees dropping out of Amateur Radio decreased by 15%. The FCC believes that these are indications that changes in the entry level license are appropriate.

New Privileges

220 MHz Band: The FCC said that VHF privileges for Novices would create the interest that is needed for amateurs to continue in the hobby and at the same time motivate them to advance to the higher classes. The Commission then authorized 222.10 thru 223.91 MHz subband for Novices using all modes with a maximum power of 25 watts PEP. The FCC said it chose these input frequencies based on the voluntary band plan now under review by the ARRL. Novices cannot be licensees, control operators, or trustees of repeaters, even when the input and output frequencies of a repeater fall within the Novice subband.

1270 MHz Band: The FCC opened another Novice subband at 1270 thru 1295 MHz with all available emissions, limited to a maximum power of 5 watts PEP.

10 Meter Band: The subband for Novices and Technicians will be enlarged on 10 meters. The new subband will be between 28.1 and 28.5 MHz: CW and digital modes from 28.1 to 28.3 MHz; CW and SSB modes from 28.3 to 28.5 MHz. Novice and Technicians are limited to 200 watts output in this band, but other licensees are not similarly limited, (unlike on the 80, 40, and 15 meter Novice subbands).

Element 2 Changes: Element 2, the Novice written examination, is largely based upon CW operation. Now that Novices are to have voice and digital privileges, the FCC believes that the examination should be broadened and will require 10 additional questions, for a total of 30, to make the scope of the Novice examination appropriate to the new privileges, without creating a significant barrier to potential Novices.

Two VEs for Novice Exams: The FCC agreed with the ARRL that the added safeguard of having two Volunteer Examiners (VEs) was justified although there may be isolated areas where locating two VEs may be difficult. The FCC Form 610 will be revised to show the certification of two examiners.

Grandfathered: All present Novices and Technicians will be authorized the new privileges without additional testing. The FCC does recommend that present Novices become knowledgeable in their new requirements before using their new privileges.

FCC Form 610 Changes: The FCC Form 610, which is currently undergoing revision to reflect written examination credit, will undergo further changes to reflect two examiners for the Novice class, and to include the separation of Elements 3(A) and 3(B); see elsewhere regarding the Tech/General split.

For Sale / Wanted

For Sale: Kenwood TS820S in mint condition: clean, unaltered, one owner. Includes four 6146B tubes free. Asking \$425.00. Contact Florian DiRoma, K1EPI, 667 North Street, Feeding Hills, MA 01030.

For Sale: Tempo S-1 HT with antenna adapter and charger. Asking \$95.00. Contact Bob, KB1VV, at (203) 745-8045 evenings and weekends.

Wanted: Weather instruments! Remote reading temperature, barometric pressure, wind speed, and wind direction. Contact Cliff, W1UWX, at (413) 532-9593.

President's Msg

As you can see by this issue of Zero Beat, lots of things have been happening with changes in the Amateur Radio Service. These things really affect all of us in one or more ways.

For those of you who hold a General class license or above, please take some time to catch up on these changes. Generals, Advanced, and Extra class licensees will be responsible for the success of the new Novice program. For Tech and Novice licensees, these changes bring new privileges, hopefully you'll find them useful and stimulating.

We are in a very special window at this point in time. Up to 7PM on that Friday in March when the rules change, anyone may take the 20 question Novice written exam, administered by only one ham, and be totally grandfathered at 0001 UTC 21-Mar-1987. If you know someone who is working on the Novice, make sure you let them know that they should make every effort to pass the exam elements and get the FCC Form 610 in the mail prior to 20-Mar-1987.

I feel that the Tech license change, where the FCC split written Element 3 into two parts, is even more important than the Novice changes. After 21-Mar-1987, any Novice can upgrade to Tech, and obtain FULL VHF privileges with only a 25 question exam (down from the previous 50 questions). This change should make the steps of advancement much easier. Hopefully all Novices will take advantage of this change; why don't you spread the word?

At the last HCRA board meeting we spent considerable time discussing how the club will handle these changes in the Amateur Radio Service. The HCRA takes pride in offering quality services, such as license classes, exams, and local communications systems. Its no secret that the HCRA is void of any 220 mhz offerings; this is only one of many areas the board is currently working on. If you have any input please drop myself or any board member a line. We'd like to hear from you!

As always, I'm looking for your Zero Beat material, both articles and items for sale. Send them to the club PO Box.

73 de Bob KA1KPH

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MFJ TNC Review

Yes, I have joined the "blurb-blurb" gang on packet and have been active on it for the past few months. I became interested when we used it during the ARRL DX contest at KY1H's to pass multipliers. Later this year some of the other big gun DXers and contesters got into it and were working a lot of good DX thanks to a bulletin board set up for this purpose. I went to the Boxboro New England Division Convention last October. I saw that several of the vendors had the new hot-selling MFJ 1270's in stock and the price was under \$100. I thought about getting one a few months earlier from one of the many amateur radio supply places advertised in QST until I did some checking and found that no one had them in stock. The next shipment wasn't due for six to eight weeks. I walked around a little more, thought about the super great review the ARRL gave this unit and finally decided to buy one. My review, which follows, is a far cry from the one in QST by the ARRL.

Well, I finally had a Friday evening that I stayed at home and hooked the unit up to my Commodore 128. According to the instruction manual this is really easy and they explain every step very clearly, so clearly that someone with no electronic knowledge can do it with no problem. It really is quite simple and took about one hour to make up the necessary cabling which is available from MFJ. I chose not to buy their cabling because I had almost everything I needed in my junk boxes at home. I booted a terminal program that I use for my modem and now the moment of truth. I pressed the button and nothing happened. No LEDs on the TNC lit up. I figured that the unit went through several quality control inspectors and had about ten stickers on it indicating that it passed all tests. I checked to make sure the power supply was plugged in and found that it was. I checked to make sure the power supply was putting out the proper voltage. It was. I checked all my wiring and found it all in A1 shape. I then removed the cover and found that two resistors were touching one another in the DIP sockets. I separated them and tried again to power the unit up without success.

By this point I was very upset at MFJ. I was determined to get it running that night. I took the printed circuit board out and carefully turned it over. Care should be taken as there are several static sensitive chips on the board. I found that problem in a few seconds. There were several bad solder connections on the board. I ended up resoldering thirteen connections. I placed the board back in the chassis and powered the unit up. At last the TNC worked!

Well, not quite. I could not get it to key the radio and the cabling was to their specs. I decided to check the cable that goes from the radio port on the TNC to the radio for continuity. The only wire that was connected to the 5 pin DIN plug that goes to the back of the TNC was the shield. I took the plug apart and found that none of the wires were ever soldered, except for the shield. At this point I am up to 18 resoldered connections.

That WAS the problem and to say I was glad to see the thing work was an understatement. I literally jumped for joy knocking the box the TNC came in off the desk. A piece of paper flew out of it. On the paper was a message telling the user that the radio port connector cable color code on Page 3-1 of the manual is wrong. Why couldn't I have found this about 45 minutes earlier? I thought I took everything out of the box...

I wrote MFJ a letter telling them about this problem... ie "My unit making it passed inspector twelve..." to which they have failed to reply. I must be at the bottom of the list. The service number they give is useless. It's either busy, the person you need to talk to is on another line, out to lunch, or on vacation. I think if I worked for a company like MFJ I would have my secretary give the thousands of complaint callers one of these very same lines.

All in all:

- The unit works as advertised.
- The artwork and board are high quality.
- The unit is built in a real metal case.
- The unit is basically RF proof to the legal limit.
- The owner's manual is really written well.
- The unit will work with almost any computer.

**New Privileges Effective
7:01 PM March 20, 1987**

The bad points:

- The service line number is useless
- Quality control is not very good... it really stinks.

The TNC works well and I am satisfied with it despite the initial problems. MFJ will not void the one year warranty if you attempt to repair the unit yourself. They will even supply replacement parts free of charge provided you can get through to customer service. I don't recommend that a person with no knowledge of troubleshooting digital circuits attempt to fix a defective unit. MFJ has a very serious quality control problem. The reason is probably because they cannot keep up with the demand. They had better resolve the problem, posthaste, or a lot of hams, like myself, will think that MFJ stands for Mighty Fine Junk.

de Brian, WB1EYL

from a recent NoBARC newsletter
tnx NoBARC!

FCC says no to 17m

The FCC has dismissed the ARRL petition to release the 17 meter band, 18.068 through 18.168 mhz, to US amateurs. This band was allocated to radio amateurs worldwide at the 1979 WARC conference, and about 65 countries are currently allowing their radio amateurs to operate there. In the US, amateur occupancy of the band is contingent upon the relocation of US government fixed operations. FCC said that agencies within the US government had informed them that the band will be required for their operations through July 1, 1989. However, the FCC said it would continue to monitor the government usage of the 17 meter band, and it may be possible to provide for amateur sharing of the band with government operations prior to the July 1, 1989 date.

Slow Speed Net

The Western Mass Slow Net (WMSN) meets Monday thru Friday at 8:30 PM local time on 3.725 mhz. This is a slow speed traffic net where Novices (and others, too) can learn net operations. They are in need of checkins, so if you have a chance, tune up and give them a call. Joy KA1EXJ is net control.

Contests

Thanks to Billy Lunt, KR1R, YCCC *SCUTTLEBUT* and Frank Anzalone, W1WY, *CQ* for the following contest dates:

1987

Mar	7-8	DX Test SSB
	28-29	CQ WW WPS SSB
Apr	13	144 MHz sprint
	21	220 MHz sprint
	29	432 MHz sprint
May	8	902 MHz sprint
	14	1296 MHz sprint
	23-24	50 MHz sprint
Jun	13-15	June VHF contest
	27-28	Field Day
Jul	11-12	IARU HF contest
Aug	1-2	UHF contest
Sep	12-14	September VHF contest
Nov	7-9	Sweepstakes CW
	21-23	Sweepstakes SSB
Dec	4-6	160m contest
	12-13	10m contest

Please consult *CQ* or *QST* for more information on the above listed contests and events.

UHF Repeaters

A few months back W1JR and W1RIL presented a talk on the 33cm band. For those of you who are interested in 902 and 1296 mhz the following information may be of interest!

The NoBARC people have coordinated two new repeaters for atop Mt. Greylock on these bands. Both will use the K1FFK call. They will operate on 909.100 mhz input, 921.100 mhz output, and 1271.9 mhz input, 1283.9 mhz output.

In addition, KA1KPH has locally coordinated two repeater pairs on these bands. It is expected that these repeaters will be operational within the next few months from Feeding Hills. They will operate on 907.5 mhz input, 919.5 mhz output, and 1270.5 input, 1282.5 output.

Contact KA1KPH on 449.175 repeater for more information!

KA1KPH/R	K1FFK/R
919.500	921.100
1282.500	1283.900

220 mhz proposal

On February 12, the FCC released a notice of proposed rule making, General Docket 87-14, that proposes to allocate 220.0 to 222.0 mhz on an exclusive basis to the Land Mobile Service and 222.0 to 225.0 mhz exclusively to the Amateur Service. According to the FCC, the 220.0 to 225.0 mhz band is underutilized, and that the Land Mobile service has needs that can be met in this region of the spectrum. Therefore, the Commission is proposing that the lower 2 megahertz, 220.0 to 222.0 mhz, be reallocated on a primary basis to the Land Mobile Service for both government and nongovernment operations. The existing primary allocations to the Amateur, Fixed and Mobile services will be deleted. Accordingly, the FCC proposes to allocate the remaining 3 megahertz, 222.0 to 225.0 mhz, to the Amateur Radio Service on a primary basis. Comments on this proposal may be filed on or before April 6, 1987. Reply comments may be filed on or before April 21, 1987.

Written Exams

The FCC has announced that written examination credit for Amateur Radio exams, PR Docket 86-63, will become effective February 13, 1987. The Office of Management and Budget (OMB) has approved a revised FCC Form 610; however the current July 1985 version, with an OMB expiration date of 3/31/88, will remain in use until revised forms are available.

New 10m USB Net

A new net has been formed on the 10 meter band with the Novices and Technicians in mind. This net will meet every Sunday evening at 7PM local time on 28.400 mhz upper side band (USB). All hams are urged to check into the net, and Novices and Technicians are welcome after 21-Mar-1987 when they are granted the new privileges to operate phone on 10 meters. Rusty KB1XD is net manager.

Sundays 7PM on 28.4 mhz

Call Signs

As if the Novice Enhancement announcement was not enough, the FCC released a second blockbuster this past week. Acting in response to a letter written by the ARRL last June, and requests by three other interested parties, the FCC has asked for comments on a proposal inquiring if call signs should be issued by the private sector! As stated in the Public Notice: The "FCC favors the implementation of such a system if it can be accomplished with no additional cost or workload to the FCC. The purpose of this Public Notice is to solicit comments and proposals on this matter ... so that a determination can be made as to whether to proceed with its implementation."

As outlined in this proposal, the FCC:

- Would only issue one 2x3 call sign for each new license, regardless of the license class. These calls would be from the NA-NZ block, e.g. NA1KPH.
- Would discontinue processing requests for any call sign changes, and freeze all presently assigned call signs.
- Would make all other call signs available to a special call sign coordinator, or SCSC, who could assign one or more supplemental call signs at the request of the licensee. This supplemental call sign could be used in lieu of the FCC assigned call sign.

In addition:

- The SCSC would be operated on a not-for-profit basis, but would be allowed to recover administrative costs.
- The FCC said, in its preliminary view, that it would prefer having only one SCSC, since it would be more efficient in preventing the same call sign from being assigned to different stations, and avoiding inconsistencies of assignment.
- Further, a single SCSC would minimize the number of points of contact between the SCSC and the FCC, thus holding the administrative burden upon the FCC in check.

You can see the difference!

ATV is alive and well in Western Mass and Northern CT. Check it out on 426.250 mhz; also on 147.105 mhz FM.

The FCC has also stated its selection criteria for an SCSC. They are:

- The ability to assign call signs in an efficient and objective manner.
- The ability to provide an accurate on-line access database of assigned special call signs for Commission monitoring and compliance work.
- The ability to minimize FCC resources required in the establishment of the special call sign system.
- The ability to minimize the cost to the licensee for administering the system.

Written comments on this matter, numbered PRB-3, and proposals to be the SCSC, are due on or before April 23, 1987, with reply comments filed on or before May 22. The Commission requests an original and 4 copies.

WMA Section

Our new Section Manager is Bill Voevisch, Jr., W1UD, 240 Main Street, Leominster, MA 01453. Bill replaces Don Haney, KA1T, who recently resigned. Bill is very interested in hearing from everyone.

Our Section Emergency Coordinator is Dick Goodman, WB1HIH, P.O. Box 591, Williamstown, MA 01031. If you are involved in any emergency, participate in a drill, or any public event, please send a report into Dick. He will send the info along to QST, and who knows, it may appear in the Public Service section.

Section appointments are available in many areas. Contact Bill W1UD for more information!

HCRA VEC Exams

The Hampden County Radio Association will sponsor a minimum of four ARRL/VEC exams in 1987. The dates scheduled so far all are on Saturday at the Wilbraham Hampden Regional High School, located on Main Street in Wilbraham, MA. Registration is at 8:30 AM, and exams start at 9:00 AM. The current dates are: March 14, June 13, September 12, and December 12. For further information please contact Yorke Phillips, K1BXE.

Thanks for your support!

HCRA ZERO BEAT March 1987

20m Beacons

by Bert Matthies, DL2HCB
reprinted from QRP Quarterly

Nineteen year old Bert Matthies has been licensed since May 1984, having started three years earlier as a SWL. Presently midway of a three year technical apprenticeship with German Telephone, his ham radio interests are low power CW DXing and contesting. Off the air he chooses country and western QRM.

Have you ever noticed CW signals on 14.100 MHz? Twenty-four hours a day, seven days a week, you can tune your receiver to that frequency to hear QRP transmissions from the 10 stations of the NCDXF beacon net. In just 10 minutes, you can form a good picture of QRP DX propagation possibilities from the QTH to key areas of the world.

Because power levels and antennas are so similar to what an average QRPer could put on the air, the beacons give a very useful impression of where your signal will be readable at any moment.

Of utmost importance to the QRPer is the decreasing output power of each beacon, from 100 watts to 0.1 watt in 10 dB steps. The transmitting sequence of the net is shown below. Same sequence is repeated every 10 minutes, but it may vary as more beacons are added to the net.

Now let's take a closer look to the text transmitted by each beacon. The long line represents a nine second dash.

```

100w QST de (call) beacon
100w • _____
10w  •• _____
1w   ••• _____
0.1w •••• _____
100w SK (call) .
  
```

The transmission time is ± 58 seconds at a code speed of 20 wpm. Because the stations are crystal controlled on 14.100 mhz (listen on 14.009.4 due to the CW offset), they provide an accurate band-in-frequency marker and also a fine time standard. The first Q of each QST begins within a fraction of a second of the assigned time.

Flea Market

March 1, 1987 10AM
Knights of Columbus
Chicopee MA

The net might help you in improving your station and knowledge when:

- comparing antennas and receivers during the same nine second dash.
- checking DX versus short-range characteristics of different antennas.
- trying your own propagation investigation.

Last of all, the Observation Coordinator, Al Lotze, W6RZ, is sending QSL's to beacon monitors reporting their observations and thoughts to him. Regular observations are appreciated.

Time	Call	QTH
00:00	4U1UN/B	NYC, NY
00:01	W6WX/B	Stamford, CA
00:02	KH6O/B	Honolulu, HI
00:03	JA2IGY/B	Asama, Japan
00:04	4X6TU/B	Tel Aviv, Isreal
00:05	OH2B	Finland
00:06	CT3B	ARRM, Madeira
00:07	ZS6DN/B	Transvaal, RSA
00:08	LU4AA/B	Argentina
00:09	HK4LR	Colombia

WAS/VUCC Awards

The HCRA, as a Special Service Club, now provides local verification of your WAS and VUCC QSL's. Doc Webb, WIHOD, is our ARRL awards coordinator, and will be glad to hear from you. You can write him at 4 Bullard Ave, Holyoke, MA 01040.

Future Meetings

Your board of directors voted to not have the annual flea market this year. Although attendance has been up and down over the last few years, it was felt that scheduling a flea market in May was difficult or even impossible due to the number of well established events, such as Deerfield.

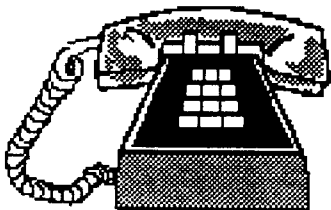
The flea market may be brought back in a different month when conflicts are not so great. In addition, we have been unable to obtain a good site over the past few years.

So, in May we will have a normal Friday evening meeting. We've got a few good topics lined up. Watch for info!

VHF Contest a Super Success!

Thanks to all members who helped to make the January VHF Sweepstakes the best ever in 1987. From results we have received we calculate that our score this year exceeded our previous record by more than ten percent! More important is that it appears that we have received more than fifty logs, which will place us in the unlimited club category for the first time ever. This is a greater accomplishment than the increased score! Thanks again to all who submitted logs, and to those who spent the time to make a few contacts. Every log counts; now we have a new record to beat next year. See you then.....

Need more information?



Please call...

Yorke Phillips K1BXE 566-3010
 Steve Nelson WA1EYF 596-8216
 Ray Burk WB1GLX 730-2774 days
 Ray Burk WB1GLX 596-6403 eves
 Ned Carpenter NB1R 596-4625

Or write directly to the club!

ARRL Handbooks

The HCRA still has a few 1987 ARRL Handbooks available for purchase. These are available at the club meetings, or by writing to the club mailing address.

We are selling these for only \$17.00, which is \$1.00 off the cover price.

If you have not had the chance to look through the new handbook check it out at the next meeting. Certainly something for everyone's shack!

There are also a few license manuals left from our fall classes for those who may be interested.

HCRA Meetings

First Friday of each month at
 Feeding Hills Congregational Church
 Center of Feeding Hills
 Intersection of routes 57 & 187
 Doors open at 7:30 PM
 Meeting starts promptly at 8:00 PM
All hams are welcome to attend!

Next Meeting March 6, 1987

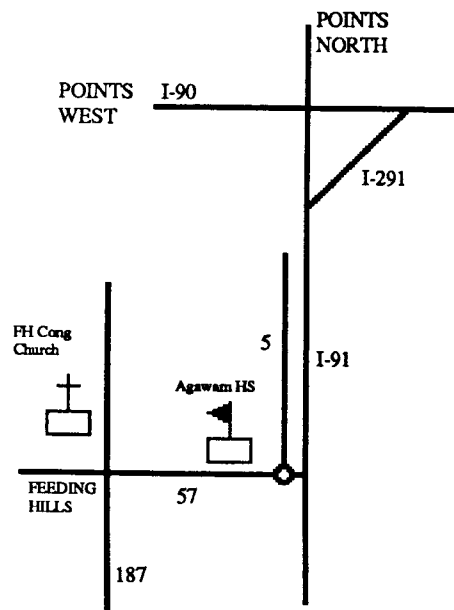
*Dr. Dube from WNEC
 speaks on HF
 propagation!*

Future Meetings

03-Apr-87
 To be announced
 01-May-87
 No flea market; normal Friday mtg
 05-Jun-87
 Annual Meeting & Awards Banquet

HCRA Repeaters

KA1JJM/R 147.105 mhz
 KA1KPH/R 449.175 mhz
 W1NY-1 145.010 pkt
 W1HGJ/R 426.250 atv



Hampden County Radio Association, Inc.

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