

Scuttlebutt

No. 70 August 1987

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Captain's Cabin Bill Pedersen, KM1C

Summer greetings from Long Island, Casco Bay, Maine, where KM1C/1 is on a mini DXpedition without radios trying to fix up a long-neglected summer house that pre-dates Marconi! There is six weeks worth of clearing, cleaning, scraping, and painting to go before I will once again be able to "check the board" and tune across the HF bands looking for the elusive ones. I will confess, however, that my thoughts keep wandering across station and antenna changes and other ways to improve the DX chase and contest scenes. These should all be in place by CQ WW.

Meanwhile, I look forward to the YCCC summer barbecue on Sunday, August 2, 1987, at the Sheraton Sturbridge. This is the one meeting per year where everyone has the chance to do a lot of socializing with fellow club members without a strict meeting schedule to follow. It is an excellent opportunity to focus your own contest thoughts for the coming year, get the latest info on what is happening with packet, computer logging programs, and who is doing what with antennas, towers, etc. In short, it's a chance for summer fun, while "Brrapping" (that's packet talk) about our favorite topic, ham radio. This event will be held rain or shine. Please make your reservations now with Charlotte, KQ1F, so that the hotel can be prepared for this YCCC event. Also, the larger the turnout, the more fun we can all have.

The CQ WW should prove to be an interesting contest this year. The bands may well show improvement over the last couple years. The YCCC will have several DXpeditions making those important mega-points, the packet cluster will be operating at new and improved levels, and we should have a number of new members helping with point contributions. All of the elements are in place for a YCCC win on both modes if we can get enough individual operator participation. The club will not win on million-plus point operations alone. We need all scores possible, even those from a few casual hours on Sunday or from a low-power, dipoles-only setup. Please remember that the club has members with a great variety of stations and contest talents. The YCCC accepts scores of all levels, large or small! The point is to make points, have fun, donate the score to your club, and take satisfaction from the resultant YCCC win and your new country and band-country

I'm sure there will be a lot of strategy discussions and good ideas at the barbecue. Whether you are an old or new member, why not attend and meet those from the "other" regions of the club? Also, bring along someone who has expressed an interest in contesting and DXing. The YCCC has a lot to offer to the newcomer in this area of amateur radio. We should all help the YCCC by attempting to recruit new members. The barbecue is a great place for introductions in a relaxed atmosphere and a good opportunity to help the club grow. I look forward to seeing everyone there.

73 de Bill, KM1C.

Next Meeting Paul Young, K1XM

The next meeting of the Yankee Clipper Contest Club will be the club barbecue on Sunday, August 2, at the Sheraton Sturbridge. The brief business meeting will start at noon, followed by the barbecue and swimming at the beach. Kele Kecman, YU1AO, principal operator at YU1EXY, will be in attendance.

If you are coming for the barbecue, you MUST contact Charlotte, KQ1F, by noon on Wednesday, July 29th. If we tell them too few people, they won't have enough food, and if we tell them too many, then YCCC gets charged. The barbecue will be \$9.25 per person. Bring the whole family.

The Sheraton Sturbridge Resort and Conference Center is located on Route 20 in Sturbridge, Massachusetts, $\frac{1}{2}$ mile West of I-84 (first exit off I-84 when coming South from the Mass. Turnpike). Directions to the Sheraton are easy: Exit I-84 on to Route 20 West. You will pass through two sets of stoplights while noticing several motels on your right. Make a right turn just prior to the Burger King sign. This is the entrance to the Sheraton, and there is plenty of parking in front of the hotel.

The meeting dates for the rest of 1987 and 1988 are:

DATE	DAY	DELI-LUNCH
August 2, 1987	Sunday	Lakeside Bar-B-Que
October 4, 1987	Sunday	11:30 AM
December 6, 1987	Sunday	11:30 AM
February 6, 1988	Saturday	11:30 AM
April 9, 1988	Saturday	11:30 AM
June 5, 1988	Saturday	11:30 AM
August 6, 1988	Saturday	Lakeside Bar-B-Que
October 2, 1988	Sunday	11:30 AM
December 4, 1988	Sunday	11:30 AM

Secretary's Report Yankee Clipper Contest Club

The June YCCC meeting was held at the Sheraton Sturbridge on 6 June 1987 with 44 members and their guests in attendance. Tom Frenaye, K1KI, club Vice President, chaired the meeting in the absence of club president KM1C. The Treasurer's Report showed a balance of \$88.01. The Treasurer's Report showed payment for the 1985 CQ WW plaque, which went to D44BC, and that the price of sponsoring a plaque has gone up, from \$45 to \$50. The reading of the Secretary's Report was waived since the report appeared in the last Scuttlebutt.

Courtesy of Dwight, AI3E, copies of the "1987 Survey of NBS Time and Frequency Service Users" were available. These postpaid forms should be sent in as soon as possible to show our appreciation of WWV, so

its funding will not get cut off. Copies of the club's DXCC List were also available; additional copies are free for an SASE to Charlotte, KQ1F. Tom, K1KI, also collected a list of foreign operations by club members, which he will compile into a directory for members thinking of taking DXpeditions.

Dave, KY1H, reported that his Field Day plans were proceeding, and that operators were needed for the Novice/Technician station. Doug, K1DG, was also looking for Field Day operators, and Rich, K1CC, reported that Murphy's Marauders Field Day would take place in Manchester, CT.

Tom, K1KI, reported that Bill, KM1C, had written up input to the FCC about the Club's proposal to link 2m packet systems with 220MHz links. Rich, K1CC, has a Drake L4B for sale, and is looking for a used TNC. Dave, KY1H, reported that he is running a Swap net on 28303 on Thursday nights at 9 pm local time. Tom, K1KI, had an NCJ North American QSO Party plaque for Jack, W1WEF. Tom also brought a collection of books he no longer needed, which members could have for a donation to the Club treasury; most of these quickly disappeared. Rich, K2WR, reported that Ed, NT2X, was ordering more club jackets and that interested parties should contact Ed for details. Jackets cost \$23.50. Tom, K1KI, encouraged members to plan CQ WW DXpeditions. He also demonstrated an antenna carrying box he built out of PVC pipe and end caps to ship antennas for DXpeditions; the parts cost \$6. The 50/50 raffle netted \$21 for the Club, and was won by Genevieve, N1CPC, XYL of Jim, K1MEM. Several members had IRCs for sale for \$.40. Dick, AK1A, volunteered to collect any QSL card orders for John, K1AR, who missed the meeting. He also reported that copies of the manual for his PCBS system are available for \$1.

The club welcomed four new members: Rick Booth, KM1G, and Stan (KA1ZE), Linda (KA1KSF), and Kevin (KA1QAH) Hilinski, all of Connecticut.

After all of this routine business, Rick, KM1G, presented a slide show on YU contest stations in Dalmatia (coast of Yugoslavia). Rick is a newspaper and magazine editor, and was in Yugoslavia to cover a yacht race. He visited club stations YU2AKL and YU2CBM. He reported that hams in Yugoslavia MUST belong to a club, that home calls there are now 2x2 and club station calls 2x3, and that special prefixes are easy to get. Equipment is hard to get due to import quotas. Radio clubs get government money.

Rich, K2WR, presented his Dayton Spiel.

John, W1RR, gave a technical presentation of VHF paths between AK1A, KY1H, and other backbone packet nodes.

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Steve, K1ST, then showed slides of the West African 160m DXpedition by K1ST, WA1RCA, K1MEM, N1CPC, K1MM, and KA1ESR to TU and 6W.

Dave, KY1H, gave a short presentation on suggested improvements to the packet network backbone to reduce congestion. He suggested using two or more 2m frequencies connected by a 220MHz 2400 baud link.

Tom, K1KI, then collected all of the QSL cards for the Best QSL Card contest.

Following these presentations, the hungry crew adjourned to Rom's and other local eateries for much-needed refreshment!

Respectfully submitted, Charlotte L. Richardson, KQ1F Secretary/Treasurer 8 June 1987

Heapsort

Dave Clemons, K1VUT

For a couple of years I tired to teach myself enough BASIC in order to use my computer for amateur radio applications. During that time I had some difficulty with certain aspects – partly due to my low-budget approach and partly due to the limitations of the books I was reading. These experiences have led me to keep an eye open for certain basic applications which can be derived from other languages I have been studying. Since my experiences are probably not unique, I decided to pass this little tidbit on to those of you who are in a similar situation.

A typical application of the computer to our facet of the hobby is the use of a sort to produce an alphanumeric dupe sheet. Alas – if you are reading the typical BASIC book, you will be introduced to the "bubble sort". So you add this neat little sort to your program, type in 987 calls, go to bed, and, if you're lucky, the list will be ready in the morning ... after breakfast, that is. Actually, I am exaggerating a bit but you probably did notice that it is rather slow for large lists.

Computer scientists have designed a way to characterize various sorts, by using the "big O" notation—which stands for "order of". Briefly stated, the "bubble sort" falls into the $O(n^2)$ category, where n is the size of the list. Therefore, as n increases, the time used by the sort increases by a rate that is bounded by n^2 . This should explain why it is so slow on large lists.

There are numerous sorts which fall into a better category $-O(n \log n)$. Unfortunately most of them require recursion, which eliminates BASIC. I did run across one (the "heapsort") which is recursive in concept, but

is implemented in an array. (The explanation of the algorithm is somewhat lengthy unless you understand the concept of a binary tree.)

To give you an idea of comparative times on my computer, I ran both sorts with identical data (calls worked in the 1985 WPX test). The times taken by the sorts were determined by the computer itself.

Following the chart is the actual BASIC code segment for the heapsort. It should be obvious that for small lists the "bubble sort" is still preferable due to its small length code, but the 35 or so lines of the heapsort are well worth the trouble of typing when you have a large list. (Don't forget to "clear" enough space for the amount of calls you are using.)

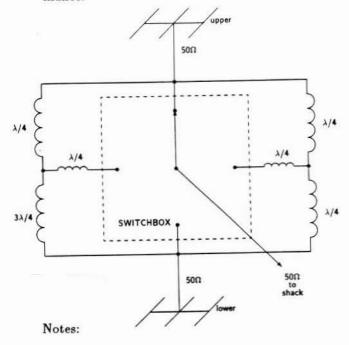
No. Items	"Bubble Sort"	"Heap Sort"		
	Time (sec.)	Time (sec.)		
10	2	1		
20	6	4		
40	29	11		
80	237	62		
160	4307	658		

```
150 : REN
            H IS THE NUMBER OF CALLS TO BE
155 : REM
            SORTED
160 : REM
            ENTER ALL THE CALLS INTO AN
170 : REM
            ARRAY WITH SUBSCRIPTS OF O TO H
180 : REM
190 : REM
200 N = 0
210 FOR I = 1 TO H
220 GDSUB 1300
230 NEXT I
235 Q = H
240 IF Q >= 1 THEN GOTO 2020 ELSE GOTO 280
280 END
290 : REM
300 : REM
1300 V$ = A$(I) : REM A$ IS THE ARRAY OF CALLS
1305 N = N + 1
1310 A$(N) = V$
1320 GDSUB 1400
1330 RETURN
                 N.K.R.J ARE ALL USED AS
1340 : REN
1350 : REN
                 ARRAY SUBSCRIPTS
1400 K = N
1410 W$ = A$(K)
1420 A$(0) = "}}}}" : REM THIS GIVES A$(0) A HIGHER
1425
                       :REN VALUE THAN ANY POSSIBLE CALL
1426
                       :REM IN ORDER TO STOP THE "LOOP"
1430 IF A$(K \ 2) <= W$ THEN GOTO 1480 ELSE GOTO 1440
1440 A$(K) = W$
1450 RETURN
1480 A$(K) = W$
1490 K = K \ 2
1500 GOTO 1430
2000 : REM
2010 : REM
2020 P$ = A$(1)
2030 \ A\$(1) = A\$(N)
2050 N = N - 1
2060 R = 1
2070 V$ = A$(R)
2080 IF R <= (N \ 2) THEN GOTO 2090 ELSE GOTO 3080
2090 J = R + R
```

```
3000 IF J < N THEN GOTO 3010 ELSE GOTO 3020
3010 IF A$(J) < A$(J + 1) THEN J = J + 1
3020 IF V$ >= A$(J) THEN GOTO 3030 ELSE GOTO 3060
3030 A$(R) = V$
3035 GOTO 3080
3050 A$(R) = A$(J)
3060 R = J
3070 IF R <= (N \ 2) THEN GOTO 2090 ELSE GOTO 3030
3080 A$(Q) = P$
3085 Q = Q - 1
3090 GOTO 240
```

U-L-Bip-Bop Box Dave Robbins, KY1H

I am using the new Heathkit remote switch box on my 20 meter system. It provides the 1 of 4 nonshorting and non-grounding switching and does not require a separate control cable. It also switches almost instantly since it uses relays instead of a rotary switch. I have measured at least 30 dB of isolation when in upper or lower on the opposite antenna (i.e., 1 kW to upper antenna and 1 W to lower) and good balance when in the 'Both' positions. While there is some change in loading when switching positions it has not been enough to force retuning the amplifier. This system has been in use since last fall at my station with 2 3-element 20m monobanders, one rotating at 150 feet and the other fixed on Europe at 60 feet, and has provided excellent flexibility and good performance.



- all $\lambda/4$ (and $3\lambda/4$) lines are 75Ω coax.
- 50Ω lines from box to antennas are equal lengths.
- · Switch box is non-grounding and non-shorting.

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Score Rumors:

CQ WPX CW:

Call	QSOs	Ms	Score
N1AFC (QRP 1w)	141	122	32K
K1TO	1266	510	1.4M
K1XA (20m)	692	387	1.1M

CQ Trophy Thank You

YCCC de N6TJ

Dear Gang:

Once again I have the opportunity to thank you for sponsoring the CQ WW CQ DX Contest DXpedition Trophy. The last time was in the early 80's for my operation as 8P6J; this time for my DXpedition to D44BC in the 1985 test. Your support is always appreciated, as are the many YCCC QSOs. The YCCC certainly has more than its share of big signals and fine operators.

Please look for me again at D44BC this November, and additionally, Julio and I will be multi-op in the Phone test in October.

Thanks again.

73 Jim Neiger, N6TJ

P.S. Your trophy is already in the hands of Julio (D44BC) and I expect will soon adorn a prominent space on the wall of his shack in Mindelo.

Floating Paul Young, K1XM

What if you gave a contest and nobody came? I suspect that will be the fate of the new 73 Magazine contest. The contest has some of the worst rules I have ever seen. Here are some examples:

- The contest is USA only. The score is QSO points times the average multiplier.
- A QSO is worth one, two, or three points depending on what kind of antenna you use. A wire (except for a quad) or vertical (not phased) is worth three, a multi-band antenna two, and everything else one. This means that your normal antennas are all wrong you need a special set for this contest. For example, rhombics are good three point antennas. Of course, you can

turn your one point yagis into three point antennas by rotating them so they have vertical polarization!

- You get one multiplier per state on each band, except on 160 or 10 where a state is worth two.
 To calculate the average multiplier, you add up the multiplier and divide it by the number of bands operated. This will discourage you from operating on marginal bands.
- The contest is operated barefoot. This should further discourage you from operating marginal bands. Although the ARRL had a problem with people running high power in the Sweepstakes some years back I'm sure 73 Magazine is too highly respected for anyone to cheat in their contest.
- Except during the last three hours, you must switch bands at 0300, 0600, 0900 etc, and at no other time! This means that if you really want to get those double multipliers on 160, you have to go there for three solid hours, barefoot. If you do not bandswitch when you are supposed to you will be disqualified. This will make it real difficult to casually operate this contest.

The announcement of this contest in 73 said that it will separate the men from the boys. I think they are right, because the boys will cheat and the men won't operate.

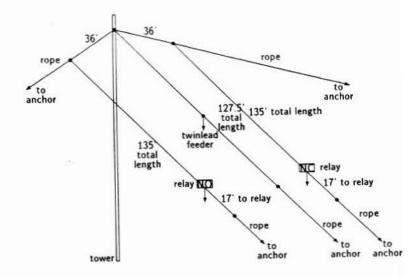
Of all the ham magazines I get (QST, CQ, 73, Ham Radio, RSGB Radcomm, NCJ, and Radiosporting), Ham Radio is the only one which does not sponsor a contest. I think I will renew their subscription.

By the way, have you seen the latest NCJ? It is the first one published by the ARRL. The print quality is as good as the Scuttlebutt. If you don't subscribe to the NCJ, you should. And, of course you should write some good articles and send them to the Scuttlebutt, so I can print them and the NCJ can copy them.

If you worked us from KC6MX/KC6IF and have not sent for a QSL, they should be available at the barbecue. Just one more reason to attend!

EI8H 80m Reversible Beam Dave Robbins, KY1H

This diagram was drawn from EI8H's description on 75m. The observed F/B ratio was 4-5 S-units.



Movers and Shakers

The new club roster in this issue has these changes in callsigns:

Jeff, ex-WB8BTH, is now NK1F.

Check the roster itself for the latest addresses and phone numbers. Note that area code 617, Eastern Massachusetts, is going to be split sometime before the end of the year; members located approximately west of route 128 will then be in area code 508.

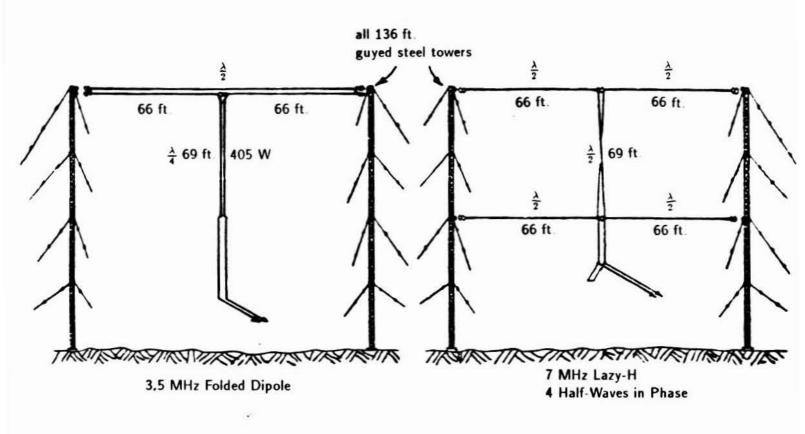
New Crew

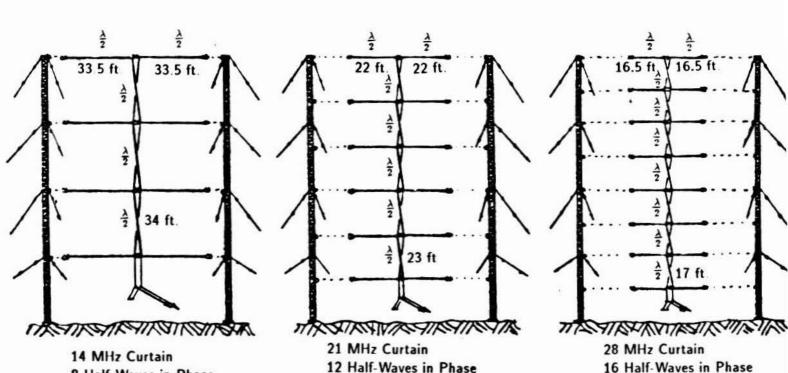
Please welcome the following new members, who joined at the last meeting:

Rick Booth, KM1G 9 McGrath Court Stonington, CT 06378 home phone (203)535-0123

Stan Hilinksi, KA1ZE Linda Hilinksi, KA1KSF Kevin Hilinksi, KA1QAH 17 Pilgrim Drive Tolland, CT 06084 home phone (203)872-6197 work phone (for KA1ZE) (203)649-3258

W1EVT
Acton, Massachusetts
Typical High-Frequency Antennas in Use March 1967
Tom Frenaye, K1KI





8 Half-Waves in Phase

THE CLUB RESOURCES PAGE THE Place to Find Club Information

DUES are due at the April election meeting, which begins our club "contest year", with a grace period until the end of June. Membership in the club will lapse at the end of the grace period if dues are not paid up. In order to re-join the club, a lapsed member must attend a meeting, like any new member, and be welcomed back into membership, or may become a subscriber to the Scuttlebutt by paying up (see below). Club members who move out of club territory and so are not eligible to contribute to club aggregate scores automatically become subscribers. New members who join at the last meeting of the club's contest year (February) are credited with dues for the following year (that is, the contest year beginning that April). You can tell if you owe dues by checking your Butt mailing label. Only paid-up members are eligible to contribute to the the club score in contests.

FAMILY MEMBERS Members of the same family living at the same address may elect to receive only one copy of the Butt. One member of the family must pay full dues, enabling the rest of the family to join as family members. Being a family member is currently free.

STUDENT MEMBERS Full-time students are eligible for dues at half the regular rate.

SCUTTLEBUTT SUBSCRIBERS Anyone may subscribe to the club newsletter, the Scuttlebutt. A subscription costs the same as club membership. At the present time, overseas subscriptions cost the same as domestic (we have very few overseas subscribers). The subscription period begins at the beginning of the club year, in April. New subscribers who begin their subscriptions after the December issue are considered to have paid for the following year (that is, they receive as many issues as new members joining at that time do). You can tell if your subscription is current by checking your Butt mailing label. The grace period for late subscriptions is the same as for late memberships.

SCUTTLEBUTT ARTICLES should be sent to the Scuttlebutt editor, Paul Young, K1XM, 11 Michigan Drive, Hudson, MA 01749, home phone (617)562-5819. The deadline for each issue is three weeks before the next meeting.

CLUB JACKETS are available through Ed Kritsky, NT2X, 580 East 17th Street, Apt. 2F, Brooklyn, NY 11226, home phone (718)284-4493.

CLUB QSL CARDS are ordered through John Dorr, K1AR, 2 Baldwin Street, Windham, NH 03087, home phone (603)434-5661.

CLUB QSL CARD BADGES are available from Tom Frenaye, K1KI, 23 Pinehurst Road, Box 62, Unionville, CT 06085, home phone (203)673-5429, by sending him a club QSL card. The cost is \$1 payable to the club treasurer on receipt of your badge.

PACKET NET information is available from Dick Newell, AK1A, 5 Pavillion Rd., Amherst, NH 03031, home phone (603)673-6458, or Dave Robbins, KY1H, Baumann Road, Peru, MA 01235, home phone (413)655-2714.

CONTEST SCORES are sent to the club scorekeeper, Jeff Detray, NK1F, P. O. Box 524, Troy, NH 03465, home phone (603)242-7995.

CLUB ROSTER appears in the summer issue of the Scuttlebutt every year. Updates are published when members move or change callsigns. If you want a new copy of the club roster, contact the club secretary/treasurer, Charlotte Richardson, KQ1F, 11 Michigan Drive, Hudson, MA 01749, home phone (617)562-5819.

CONTRIBUTIONS The YCCC welcomes your contributions, be it money to help offset the cost of the Scuttlebutt and club operations, scores for the club aggregate score, time spent helping other members, articles for the Scuttlebutt, or presentations at club meetings.

DXCC LIST The club maintains a one-page version of the ARRL DXCC Countries List. To get a copy, send an SASE to the club secretary, Charlotte Richardson, KQ1F, 11 Michigan Drive, Hudson, MA 01749. Complete DXCC rules are only available from the ARRL.

ARRL LIAISON For ARRL matters, contact Tom Frenaye, K1KI, 23 Pinehurst Road, Box 62, Unionville, CT 06085, home phone (203)673-5429.

The Scuttlebutt is the newsletter of the Yankee Clipper Contest Club and is mailed six times per year to all paid up members. Dues are \$10 per year, payable 1 April with a grace period through 30 June. Non-members may subscribe to the Scuttlebutt by sending \$10 to the Treasurer: Charlotte Richardson, KQ1F, 11 Michigan Drive, Hudson, MA 01749. Subscribers who subsequently become members will be credited as having paid dues.

The Scuttlebutt may be reprinted in whole or in part, except for separately copyrighted articles, provided proper credit is given.

The Yankee Clipper Contest Club (an ARRL Affiliated Club) holds six official meetings per year, on the Saturday or Sunday afternoon of the first full weekend of every even month in the Sturbridge, Massachusetts, area. The deadline for article submission to the Scuttlebutt is three weeks before the next meeting date. The next meeting will be the annual barbecue on Sunday, August 2, 1987, in Sturbridge, Massachusetts. Attendance at an official meeting is <u>required</u> in order to become a member. Club members congregate on 3830 KHz after contests. The packet frequency is 144.95 MHz.

Rosters are mailed to all paid members each summer. For more information and/or assistance, contact the area manager nearest you on the following list:

Area	Call	Name	Home	Work
CT/RI	K1RX	Mark Pride	(203) 271-2076	(203) 265-8825
EMass	W1FJ	Al Rousseau	(617) 598-3744	(617) 599-7500 x 173
WMass	KY1H	Dave Robbins	(413) 655-2714	(413) 494-2023
VT/NH	K1GW	Glen Whitehouse	(603) 673-6290	(603) 627-7877
ME	K1SA	Bernie Cohen	(207) 773-6589	(207) 797-3585
NNY	K2RD	Ira Stoler	(518) 439-5804	(518) 445-8474
SNY/NJ	K2EK	Bill Gioia	(914) 221-1672	(212) 888-2102

YCCC 11 Michigan Drive Hudson MA 01749

FIRST CLASS

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HOME PHONE
                                                                       WORK PHONE
                                                                                                          STREET ADDRESS
                                                                                                                                                         CITY
                                                                                                                                                                                            ST ZIP CODE
CALL
           NAME
                                                    603/673-6458 617/568-4667
                                                                                                                                                         Amherst
                                                                                                          5 Pavillion Rd.
47 Lakeview Drive
           Dick Newell
                                                                                                                                                                                            NH 03031
 AKIA
                                                    401/789-1796 203/666-1541 x 202
                                                                                                                                                         Narragansett
            Mac McGrath
                                                                                                                                                                                            RI 02882
 KZIA
            Peter Archibald
                                                    207/767-2169 207/797-8931
                                                                                                          2 Baldwin Street
                                                                                                                                                         South Portland
                                                                                                                                                                                            ME 04106
 NIAFC
                                                    603/434-5661 617/967-1095
                                                                                                                                                         Windham
                                                                                                                                                                                            NH 03087
            John Dorr
 KIAR
                                                                                                                                                         Windham
Lexington
                                                    617/862-1753 617/692-6000
617/655-0444 617/358-2912
                                                                                                                                                        Lexington
Wayland
Feeding Hills
Pepperell
                                                                                                           30 Fairlawn Lane
            Bill Santelmann
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P. O. Box 17
           Dennis Egan
Shawn McCormick
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                                                                                                                                                                                            MA 01030
 NC18
                                                    617/433-6363 617/263-9449
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            Bruce Blain
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 KIBG
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66 Washburn Street
            Charles McCarthy
                                                                                                                                                         Hudson
Northboro
Newington
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                                                    617/393-3413 617/798-8576
            Roger Prince
                                                                                                                                                                                            MA 01532
 WIRR
           Bernice Andersen
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                                                                                                                                                                                            CT 06111
 KALBRD
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603/434-0399 603/885-9564
            Ron Grzelak
                                                                                                                                                                                            MA 01020
                                                                                                                                                         Londonderry
Amherst
Plaistow
Vernon
                                                                                                          12 Hovey Road
Roberge Drive
3 Rolling Hill Avenue
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 AG1C
            Ted Goodhue
                                                    603/673-1678
                                                                                                                                                                                            NH 03031
            Bill Pedersen
 KMIC
                                                    603/382-6364
           David Gerns
Rich Assarabowski
                                                                                                                                                                                            NH 03865
                                                                                                          306 Vernon Avenue
62 Springdale Road
                                                    203/875-0166 203/727-7438
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 KICC
           Richard Reed
Bill Welch
                                                                                                                                                         Coventry
                                                    203/742-7008
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 KALCI
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Granby
Danvers
                                                    617/653-2347 617/732-4745
                                                                                                           86 Woodland Street
            Bill Welch
Bill Shaheen
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                                                                                                           49 South Street
                                                    413/467-9075 413/785-1918
                                                                                                                                                                                            MA 01033
 NICO
                                                                                                           2 Hickory Lane
           Jim Tumelty
Lester Kemble
                                                                                                                                                                                            MA 01923
 W1 CWU
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                                                                                                           14 Grandview Terrace
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 KG1D
           James R. Henderson
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144 Kendall Pond Road
                                                    617/259-8738
                                                                                                                                                         Lincoln
 NIDEA
           Doug Grant
Terri Corey
                                                    603/432-4738 617/935-5565 x 2508
401/765-4444
                                                                                                                                                         Windham
                                                                                                                                                                                            NH 03087
 KIDG
                                                                                                          Jencks Road
25 Belcrest Road
115 Cobleigh Road
RD 1 Box 556
                                                                                                                                                         Cumberland
                                                                                                                                                                                            RI 02864
 NIDTG
                                                    203/521-9117 203/365-2788
617/263-1066 617/935-5956
617/456-8272 617/460-2055
           Dallas Ward
                                                                                                                                                         West Hartford
                                                                                                                                                                                            CT 06107
KIDW Dallas Ward
KAIDWX Gordon Durk
KIEA Ken Wolff
WALEKV Chuck O'Neal III
KAIERF Julie Czajkowski
KAIESR Karen Poellaitz
KCIF Stu Santelmann
 KIDW
                                                                                                                                                         Boxborough
                                                                                                                                                                                            MA 01719
                                                                                                                                                         Harvard
                                                                                                                                                                                            MA 01451
                                                                                                          RD 1 Box 556
Post Office Box 231
North Brookfield Road
                                                   617/885-3841 617/885-3841 Post Office Box 231
617/879-6290 617/732-5420 44 Sunset Drive
617/783-0557 617/682-5276 x 17300 119 Brooks Street
617/562-5819 617/568-6588 11 Michigan Drive
413/743-7786 203/674-3894 51 Pine Hill Road
413/743-5781 413/499-3333 74 East Street
617/475-3279 617/423-3814 5 Argilla Road
617/475-3279 617/423-3814 5 Argilla Road
617/598-3744 617/599-7500 x 173 180 Den Quarry Road
617/897-5929 617/863-5500 x 4041 47 Durant Avenue
603/432-4159 617/438-4300 74 Redfield Circle
203/535-0123 80 McGrath Court
617/63-5539 617/674-4867 80 64
                                                                                                                                                         Bolton
                                                                                                                                                                                            MA 01740
                                                                                                                                                         Spencer
                                                                                                                                                         Framingham
Brighton
Hudson
                                                                                                                                                                                            MA 01562
                                                                                                                                                                                            MA 01701
           Stu Santelmann
                                                                                                                                                                                            MA 02135-1716
 KCIF
           Charlotte L. Richardson
Lawrence D. Savoy
Brian J. Szewczyk
                                                                                                                                                                                            MA 01749
 KOIF
                                                                                                                                                         Springfield
                                                                                                                                                                                            MA 01118
 KX1F
                                                                                                                                                         Adams
                                                                                                                                                                                            MA 01220
           Jeff DeTray
Albert Kinnon
Al Rousseau
Jake Handwerker
John Kaufman
John Webster
Rick Booth
Bob DeCosta
Gary Gaudette
John Nelson
Bill Myers
                                                                                                                                                         Troy
NKIF Jeff DeTray
KALFBY Albert Kinnon
                                                                                                                                                                                            NH 03465
                                                                                                                                                         Andover
                                                                                                                                                         Lynn
                                                                                                                                                                                            MA 01904
                                                                                                                                                         Lexington
                                                                                                                                                                                            MA 02173
WIFM
                                                                                                                                                         Maynard
 WIFV
                                                                                                                                                         Derry
Stonington
                                                                                                                                                                                            NH 03038
 K1FWE
                                                                                                          74 Rediteld Circle
9 McGrath Court
Box 64
21 Westview Road
32 Walker Lane
Box 501 Laurel Hill Road
                                                                                                                                                                                            CT 06378
 KMIG
                                                                                                                                                         Rochester
                                                    617/763-5539 617/674-4867
413/443-3404 413/494-4049
203/243-9482 203/666-1541
                                                                                                                                                                                            MA 02770
KALGG
                                                                                                                                                         Lanesboro
                                                                                                                                                                                            MA 01237
 WIGG
                                                                                                                                                         Bloomfield
                                                                                                                                                                                            CT 06002
WIGNO
                                                                                                                                                        Bloom:
Hollis
Cumberland
Amherst
Dayville
Pelham
                                                    603/465-2673 617/944-6850 x 2116
            Bill Myers
                                                                                                                                                                                            NH 03049
 KIGQ
                                                                                                          15 Orchard Drive
1 Pinnacle Road
 KAlGQW David R. Berthiaume
                                                    401/333-1884
603/673-6290 603/627-7877
203/774-7034 203/269-3361
603/635-3048 617/967-3104
413/655-2714 413/494-2023
                                                    401/333-1884
                                                                                                                                                                                            RI 02864
           Glen Whitehouse
                                                                                                                                                                                            NH 03031
 KIGW
           Dick Pechie
Carl Huether
 KB1H
                                                                                                           Box 265
                                                                                                                                                                                            CT 06241
                                                                                                           54 Hobbs Road
Dave Robbins

NB1H Marty Durham

K1HI Rex Lint

KB1I John A. Dority

KAIIDC Ron McElroy

WIIHN Bert Michaud

KIIJU Norman Peacor

K1IJV Jean Peacor

K1IK Al John
 KM1H
                                                                                                                                                                                            NH 03076
                                                                                                           Baumann Road
                                                                                                                                                                                            MA 01235
                                                                                                          20 Old Locke Road
26 Brek Drive
RR 2 Box 447
                                                    603/964-5383 617/272-3000 x 1860
603/424-5088 603/884-6095
203/774-4547 203/774-9246
413/743-0515 413/499-5951
                                                                                                                                                         North Hampton
                                                                                                                                                                                            NH 03862
                                                                                                                                                         Merrimack
Danielson
                                                                                                                                                                                            NH 03054
                                                                                                                                                                                            CT 06239
                                                                                                          Outlook Avenue
43 River Road
Box 1148
Box 1148
P. O. Box 77
Jencks Road
                                                                                                                                                         Cheshire
                                                                                                                                                                                            MA 01225
                                                    617/459-6774 413/267-3266
                                                                                                                                                         Lowell
                                                                                                                                                                                            MA 01852
                                                                                                                                                         Lowell
East Orleans
East Orleans
West Dover
Cumberland
                                                                                                                                                                                            MA 02643
                                                    413/267-3266
802/464-5566 802/464-5566
                                                                                                                                                                                            MA 02643
           Al Johnson
KIIK
                                                                                                                                                                                            VT 05356
                                                                                                          Jencks Road
17 Mansfield Drive
92 B Cynthia Lane
7A Edwards Road
P. O. Box 246
                                                    401/765-4444 401/751-9960
KIIU
           Jeff Bouvier
                                                                                                                                                        cumberland
Chelmsford
Middletown
Woburn
Middlefield
Unionville
New Bedford
                                                                                                                                                                                            RI 02864
           Jospeh H. Reisert
WIJE
                                                                                                                                                                                            MA 01824
           Clarke Greene
                                                    203/346-4308 203/265-8547
KIJX
                                                                                                                                                                                            CT 06457
           Robert B. Weinstock
                                                    617/620-1747
413/623-5892 413/494-5671
 KNIK
                                                                                                                                                                                            MA 01801
           Don DeZarn
KRIKE
                                                                                                          P. O. Box 246
23 Pinehurst Road, Box 62
                                                                                                                                                                                            MA 01243
           Tom Frenaye
                                                    203/673-5429 203/275-5116
KIKI
                                                                                                          23 Pinehurst Rose,
29 Greenbrier Drive
                                                                                                                                                                                            CT 06085
           Edward J. Peters
Greg Cronin
Jack Rosiello
 K1KJT
                                                    617/995-2427
                                                                                                          29 Greenbrier Drive
172 Old Mill Road
32 Deerfield Road
P. O. Box 17
21 Westview Road
17 Pilgrim Drive
30 Hall Farm Road
24 Fletcher Road
22 Laurel Drive
31 Demarco Road
                                                                                                                                                                                            MA 02745
                                                    617/428-4205 617/540-8150
WIKM
                                                                                                                                                         Marstens Mills
                                                                                                                                                                                            MA 02648
                                                    617/842-3301
                                                                                                                                                         Shrewsbury
Feeding Hills
K1 KNO
                                                                                                                                                                                            MA 01545
 KALKPH Bob McCormick
                                                    413/786-7966 413/737-0295
                                                                                                                                                                                            MA 01030
KAIKRT Jay M. Gaudette
KAIKSF Linda Hilinksi
                                                    413/443-3404
                                                                                                                                                         Lanesboro
                                                                                                                                                                                            MA 01239
                                                                                                                                                         Tolland
                                                                                                                                                                                            CT 06084
           Raymond Tabloski
                                                    603/893-0206
                                                                                                                                                         Atkinson
 AK1L
                                                    617/692-8416 617/692-6000
617/779-5424
                                                                                                                                                                                            NH 03811
NC1M Hugh Masterman
KA1MDG John F. Corini
                                                                                                                                                         Westford
                                                                                                                                                                                            MA 01886
                                                                                                          22 Laurel Drive
31 Demarco Road
                                                                                                                                                         Bolton
Sudbury
                                                                                                                                                                                            MA 01746
                                                    617/443-2345 617/577-4145
617/686-4711 617/671-3044
617/879-6290 617/235-2000
603/432-5866 617/329-4050
           Jim Dionne
           Jim Dionne
Dave Meldrum
Bill Poellmitz
                                                                                                                                                                                            MA 01776
                                                                                                                                                         North Andover
Framingham
KAIMI
                                                                                                          28 Cedar Lane
44 Sunset Drive
                                                                                                                                                                                            MA 01845
K1 MM
                                                                                                                                                                                            MA 01701
           Larry Blowin
Eric St. Cyr
Greg Papadeas
                                                                                                                                                         Derry
North Adams
 KIMNS
                                                                                                           52 Warner Hill Road
                                                                                                                                                                                            NH 03038
                                                                                                          20 Hudson Street
12 Blueberry Lane
                                                    413/663-3291
KSIN
                                                                                                                                                                                            MA 01247
                                                    603/883-7369 603/568-4160
617/369-5977 617/475-4700 x 9373
203/668-5864 617/791-7545
KA10
                                                                                                                                                         Nashua
Concord
                                                                                                          12 Blueberry Lane
1386 Main Street
1210 Newgate Road
P. O. Box 754
168 North Street
17 Pilgrim Drive
145 Grove Street
                                                                                                                                                                                            NH 03062
           Steve Wedge
Joseph B. Fitzgerald
KT10
                                                                                                                                                                                            MA 01742
                                                                                                                                                         West Suffield
KM1P
                                                                                                                                                                                            CT 06093
                                                                                                                                                         Amherst
Walpole
WIPH Kurt Pauer
KClQ David Jordan
KAlQAH Kevin Hilinksi
           Kurt Pauer
                                                                                                                                                                                            NH 03031
           Navid Jordan
Kevin Hilinksi
Matt Power
                                                    617/668-1609 203/872-6197
                                                                                                                                                        Tolland
Norwell
Tyringham
Marblehead
Pittsfield
                                                                                                                                                                                            CT 06084
                                                    617/878-5717 617/253-2538
                                                                                                                                                                                            MA 02061
                                                    413/243-3230 203/666-1541
617/639-0536 617/232-5470 x 201
KRIR
                                                                                                           Main Road
                                                                                                           119 Washington St. #4
           Robert Clarke
NIRC
                                                                                                                                                                                            MA 01945
                                                                                                           57 Quirico Drive
East Windsor Road
           Robert K. Adamson
                                                    413/443-0856
KAIRE
                                                                                                                                                                                            MA 01201
                                                   413/443-0056
413/655-8096 413/296-4751
603/394-7921 617/681-6551
203/393-1772 203/386-6137
203/271-2076 203/265-8825
413/442-6114 413/494-2739
207/773-6589 207/797-3585
KIRQ
           Dana Cobb
John Kenny
                                                                                                                                                                                            MA 01235
                                                                                                                                                         Peru
                                                                                                                                                         South Hampton
WIRR
                                                                                                           RFD Woodman Road
                                                                                                                                                                                            NH 03827
           Gene Frohman
Mark Pride
                                                                                                           52 Ridgewood Drive
                                                                                                                                                         Bethany
Cheshire
KIRU
                                                                                                                                                                                            CT 06525
                                                                                                           1130 Sumit Road
          Mark Pride
Bruce Terrell
Bernie Cohen
Bob Archambeault
Steve Tolf
John G. David
KIRK
                                                                                                                                                                                            CT 06410
                                                                                                                                                        Pittsfield
Portland
AIIS
                                                                                                           P. O. Box 1922
                                                                                                                                                                                            MA 01202
                                                                                                          94 Craigie Street
94 Chestnut Street
RFD 1 Box 176A
P. O. Box 1015
10 Petersen Road
9 Grandview Road
KISA
                                                                                                                                                                                            ME 04102
                                                    617/885-2704 603/772-6131
                                                                                                                                                         Spencer
KISP
                                                                                                                                                                                            MA 01562
KIST
                                                                                                                                                         Exeter
                                                                                                                                                                                            NH 03833
                                                   603/673-9014 603/673-4100
203/653-2343 203/563-8234 x 4117
603/437-0599 617/374-5695
KB1T
                                                                                                                                                         Amherst
                                                                                                                                                                                            NH 03031
           Dan Street
Ed Parsons
                                                                                                                                                         Granby
Windham
KITO
                                                                                                                                                                                            CT 06035
KITR
                                                                                                                                                                                            NH 03087
           Bob Czajkowski
Jerry Mul
                                                                                                           128 Forest Avenue
KITKH
                                                                                                                                                         Hudson
                                                                                                                                                                                            MA 01749
                                                   617/885-3841 617/885-3841
NITZ
                                                                                                          North Brookfield Road
                                                                                                                                                         Spencer
                                                                                                                                                                                            MA 01562
                                                    603/635-3890 617/667-7070
617/692-3525 617/263-9929
617/734-6678 617/566-8613
WAITZV Jerry Muller
                                                                                                          4 Garland Drive
91 Dunstable Road
                                                                                                                                                        Pelham
                                                                                                                                                                                            NH 03076
WAIUAR Michael McCarthy
WIUO
           Mort Bardfield
                                                                                                          16 Addington Road
                                                                                                                                                         Brookline
                                                                                                                                                                                            MA 02146
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CALL	NAME	HOME PHONE	WORK PHONE	STREET ADDRESS	CITT	ST	ZIP CODE
KFIV	Mark W. Olsen	203/627-6786	203/627-3429	7A Riverview Drive	East Windsor		06088
KRIV	Dan Crites	409/693-7626	Comment of the Commen	1700 Southwest Parkway Apt.	College Station	TX	77840
KALVC	George Smith	203/872-1440		198 Rainbow Trail	Vernon	CT	06066
KIVR	Fred Hopengarten		617/969-1113	6 Willarch Road, RFD 1	Lincoln		01773
KIVSJ	Howard Bromberg		401/231-1000	21 Wingate Road	Providence	RI	02906
KIVUT	David Clemons	617/947-3784		148 Rocky Meadow Street	Middleborough	MA	02346
KBIW	Leonard Bean		413/494-4325	62 Wellington Avenue	Pittsfield		01201
WIWAI	David S. Allen			22 Saxony Drive	Sudbury		01776
	Jack Schuster	203/633-2756	203/565-0046	408 Thompson Street	Glastonbury		06033
K1WW	Ray Crites		603/472-3911 x 370	19 Hutchinson Road	Merrimack		03054
KAIX	Shirley R. Tabloski	603/893-0206		30 Hall Farm Road	Atkinson		03811
KIXA	Robert Halprin		203/666-1541	P. O. Box 624	Newington		06111
WIXK	Stan Kugler	203/756-6056		147 Grandview Avenue	Waterbury	CT	06708
KIXM	Paul J. Young	617/567-5819	617/264-5165	11 Michigan Drive	Hudson	MA	01749
KALXN	Bob Wilson	417/739-6369	617/552-5344	179 Knollwood Street	Springfield	MA	01104
WIXX	John Lindholm	202/727-9296	203/666-1541	567 Broadview Terrace	Hartford	CT	06106
NBIY	Don Nelsen	617/729-8362	617/568-4453	97 Cambridge Street	Winchester	MA	01890
K1YL	Claire Bardfield	617/734-6678		16 Addington Road	Brookline	MA	02146
WIYN	Ed Goodhue	617/947-2342	617/678-5800	17 Parkhurst Drive	Lakeville	MA	02346
KIYR	Louis Cohen	203/393-1473		50 Bethridge Road	Bethany	CT	06525
AD1Z	William Clemons	617/871-1778	617/871-1778	1140 Plymouth Street	Whitman	MA	02382
7.1.7. 7.7	Ed Landry	413/663-8126		140 Cliff Street	North Adams		01247
	Stan Hilinksi	203/872-6197	203/649-3258	17 Pilgrim Drive	Tolland	CT	06084
KIZM	Jeff Briggs	914/221-2450	212/808-0173	R. D. 6 Box 72	Hopewell Junction	NY	12533
KIER	Serr Briggs	311/111-111					
KAZARU	Michael Samanka	212/326-2792		6407 72nd Street	Middle Village	NY	11379
NZAIF		518/286-1328	518/457-2540	Miller Road R. D. 1	Rensselaer	NY	12144
	Bob Shaw	617/874-2856	617/343-1441	14 Fenno Drive	Westminster	MA	01473
	John Fritze	518/869-0809	518/869-7880	1659 Central Avenue	Albany	NY	12205
KZEK	Bill Gioia	914/221-1672	203/964-3554	RD 7 Rushmore Road	Hopewell Junction	NY	12533
N2GC	Michael Musitano	516/741-6876	i a a secondario de la companio del companio de la companio del companio de la companio del companio de la companio de la companio de la companio del companio de la companio della companio della companio de la companio della compan	93 Roslyn Road	Mineola	NY	11501
WZIB	Art Wildblood	914/331-2864	914/383-7742	RFD 7 East Drive	Kingston	NY	12401
NZJJ	Jim Janack	518/882-9216		RFD 2 Box 44	Galway		12074
	Doug Sharp	914/471-0946		24 Walnut Hill Road	Poughkeepsie	NY	12603
NJZL	Rus Healy	203/225-0387	203/666-1541	225 Main Street	Newington		06111
K2OY	Bruce Robideau	914/677-5717	914/463-9222	P. O. Box 311	Millbrook		12546
KN2Q	Bill Michne	518/283-2692	518/445-8964	R. D. 2 Box 146	Averill Park		12018
KUZQ	Susan Tannenbaum		914/385-3688	Box DX	Cottekill		12419
KZQF	Mike Kardos		518/767-6591	1 Fiddlers Lane	Rensselaer		12144
WZRQ	Bill Keller	201/383-6875	201/649-6551	Rt. 7 Box 378	Newton		07860
KZ2S	John Golomb	201/449-3811		107 Bailey Corner Road	Wall		07719
WAZSPL	Joe Krone		518/561-5555	P. O. Box 373	Alburg	U.S. 171	05440
KZTR	Fred Lass	518/355-4813	518/346-6666	RD 1 Box 301	Altamount		12009
KZVV	John Yodis		518/370-4200 x 31440	P. O. Box 460	Hagaman		12086-0460
KZWR	Rich Gelber		212/887-3675	205 West End Avenue	New York		10023
NT2X	Edward Kritsky		212/484-8342	580 East 17th Street, Apt. 2			11226
WZYV	Dave Horbachuk		914/463-0571	P. O. Box 181	Billings		12510
AA2Z	Mark Wilson		203/666-1541	229 East High Street	East Hampton		06424
KAZZPD	Stephen King	914/687-9700		P. O. Box DX	Cottekill	m X	12419
		202 /521 500		194 Ridgewood Road	West Hartford	CT	06107
	Hope Smith	203/521-5086	203/666-1541	294 Ridgewood Road	West Hartford		06107
WIAZD	- 1.07일 리즈마 (2.17) (P.17) (P.17) (P.17) (P.17) (P.17) (P.17)		617/861-3045	493 Great Road	Stow		01775
AISE	Dwight Sipler	071/031-3330	011/001-3043	177 VARE ROLL			
W94 ***	Phil Sager	201/211-4841	203/666-1541	126 Whiting	West Hartford	CT	06119
WB4FDT AK4L			603/228-2340	RFD 5 Box 328	Gilford		03246
ANAL	Gerry Hull	003/133-4311	****			11011	3.5 5 7.5
K5NA	Richard King	914/687-9700	914/385-1122	P. O. Box DX	Cottekill	NY	12419
KSZD	Randy Thompson			27 104 500020	Pittsburgh	PA	
	wanel tuoskaon						
KAHUT	Hal Offutt	203/655-2837	212/912-7185	25 Libby Lane	Darien	CT	06820
	Steve Boone		617/841-3351	15 Diane Drive	Medway	MA	02053
					7		