June 1994

72

The NEW ENGLAND QRP NEWSLETTER

NE-QRP
42 Cushing Avenue
Nashua, NH 03060-1816

MT Pam Fitton
P.O. Box 2226
Salem, NH 03079-1154

72 THE OFFICIAL 'NEW ENGLAND QRP' NEWSLETTER

Write For 'Your' NEWSLETTER

The goal of *Z2* is to make it easy for you to submit your ideas and suggestions. Send your materials, hand written or typed to *Z2* and indicate whether or not you wish other newsletters and magazines to use your article. Floppy diskettes, MS-DOS windows gladly accepted, and be sure to put your phone number in case a follow-up is necessary. Technical articiles may be sent to John Collins, KN1H, *Z2* Technical Editor, at the address below.

Deadline for the next issue of Z2 will be September 15, 1994.

THE TEAM

MEMBERSHIP - Jack Frake - NG1G, P.O. Box 1153, Barnard, VT 05031. Tel.: 802/234-9792.

CONTEST MANAGER - Jim Kearsman, KR1S, 83 Main Street, Apt. 13-D, Newington, CT 06111-1330. Tel.: 203/666-1541, X-279.

TREASURE - Paul Kranz - W1CFL, 26 Mettacomett Path, Harvard, MA 01451, Tel.: 508/687-1501, X-2604, FAX 508/687-7265.

TECHNICAL ARTICLES - John Collins - KN1H, RR2, P.O. Box 427, Cornish, NH 03745, Tel.: 603/542-2057.

NETS - Greg Algieri - WA1JXR, 22 Chacehill Road, Lancaster, MA 01523, Tel.: 508/365-7128.

MEMBERSHIP NEWS - William Legge NT1R, 232 Foreside Road, Cumberland, ME 04110. Tel.: 207/829-5248.

NEWSLETTER - Dennis Marandos - K1LGQ, 42 Cushing Avenue, Nashua, NH 03060-1816, Tel.: 603/883-8655.

DISTINCT Club Matters, Adm., ETC. Jim Fitton - W1FMR, P.O. Box 2226, Salem, NH 03079. Tel.: (HP) 603/898-6188, (WP) 508/960-2577.

In This Issue

President's Report

Jim Fittom — W1FMR NE-01

Here it is June already and Field Day is this weekend. FD is one of my favorite events, and the weather for the past two years has been spectacular at the Windmill Farm in Princeton, MA. FD manager, Mark Swartwout - NX1K, orders fine weather and makes first class arrangements for this special event. The Zuni Loopers (and the NorCal Club) have a secret weapon this year—Chuck Adams - K5FO. The other clubs are in big trouble. I am trying to get Randy Rand - AA2U to come to New England to try to save our club.

BOXBORO, October 1994: Randy Rand - AA2U and Dave Benson - NN1G will be speaking at Boxboro on Saturday this fall, and Dennis Marandos - K1LGQ will be doing the introductions. The New England Conference should be a great program. Bring your QRP projects for a show and tell as we will have an information and QRP demonstration booth during both days. Also an official meeting is planned for Sunday.

New England QRP has 190 active members at the present time, and the goal of the club is to try to have members that contribute to the quality of the club and newsletter more than accumulating sheer numbers. So please, pass along your news and tips about home construction and/or operating so others can enjoy what you have done. If you can do that, the rest of us will have the pleasure of reading about you. It doesn't have to be a super rig article, although that would be wonderful, too, but a note about what you are doing would be perfect. I love reading about new projects, things that work, things that don't work but become a learning experience. Also, we have a lot of new ham members, and it would benefit the newcomers and old timers if someone wrote a Novice/Tech column. It is tough for a newcomer to actually do QRP, and a column by someone who is learning, or that already knows how, would be fun to read about. Any takers?

Thanks to the 'Kit Squad' for a job well done. We have around $2,000 in the club kitty as a result of New England projects #1 and #2. The excellent work done by Dave Benson - NN1G for circuit design, Paul Kranz - W1CFI, Eric Johnson- KA1EEC, Steve Allen - N1NPI, Jack Frake - NG1G, Dave Shaller - WI1S, and Mike Schmitt - N1JYT have benefited the club enormously. Dave-NN1G will now take over kit sales, so if you want a Thirty-40 or Forty-40, see the article elsewhere in this issue and make your checks out to Dave Benson.

How about testing your QRP-mini portable FD station during QRP AFIELD? Head for that lovely park which has your favorite picnic table you always wanted to operate from and send your log to me or Chet Bowles - AA1EX with a description of your equipment and what it was like. We would love to hear how you did, and you may even get published in *73*.

Officers: Please remember to send receipts along with your bills and club expenses submitted to the treasurer, Paul Kranz - W1CFI.

Please send technical articles to Tech. Editor, John Collins - KN1H, and member news to Bill Legge - NT1R. The addresses are in the front of the newsletter.

The club is dependent upon you for articles.

Some folks have very interesting projects, such as mini-loops and Surface Mount Homebrew rigs, in progress and we would love to share them with the rest of us in our radio community. I would like to show off my new, very tiny, portable station. The keyer, simple and cheap, was designed by Wayne - N6KR and will appear in the next issue of *73*. The tuner and SWR bridge was adapted from one of Doug Demaw's QRP notebooks.

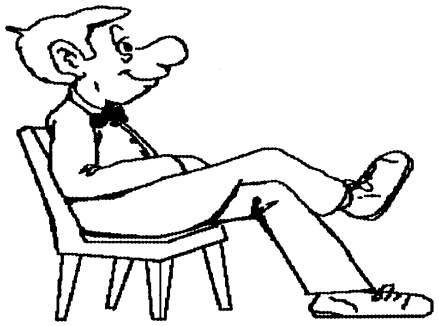
Would you like to attend monthly meetings? Drop me a postcard with suggestions and let's see what we can come up with. It would be interesting to take the membership list and a map, and plot the geographical center of the club. (What if it were around Dayton, OH?)

In the next issue of *73*, look for an RIT circuit from Dave - NN1G for the Forty/Thirty - 40 kit transceivers.

We would all love to read about your personal experiences with your New England #2 project—Forty-40 kits. The cut-off date for the next issue is September 15, so you have a lot of time to get it down and send it in! (MS-DOS, if you please.)

For now, *73*, and I hope to see and hear you this summer and work you from your remote location on QRP-Afield. (If not on Field Day itself.) Have a relaxing summer!

JimFitton - W1FMR NE #01



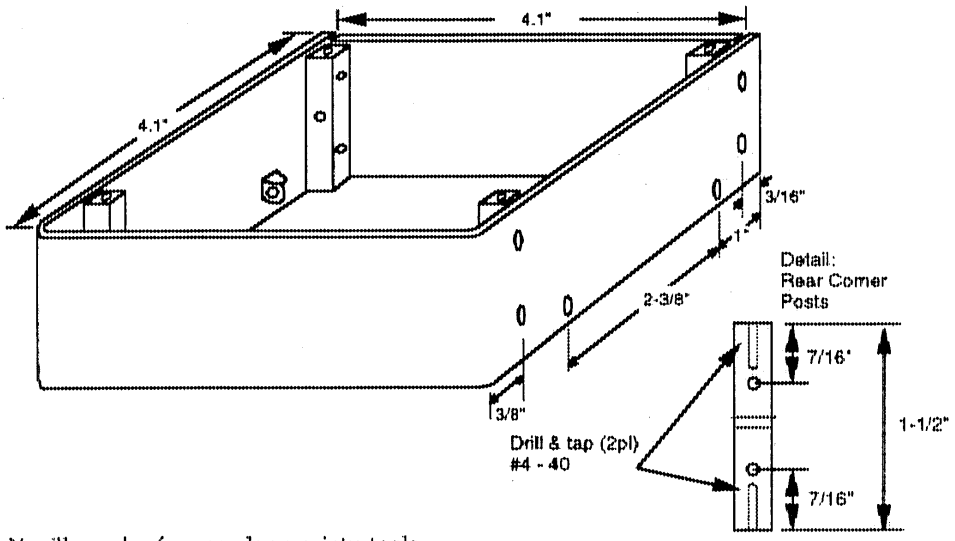
73

Homebrewing an Enclosure for the "40-40" Transceiver

Dave Benson NN1G
80 E. Robbins Ave.
Newington CT 06111

I wanted a custom enclosure I could build without needing sheet metal equipment. The dimensions shown in the sketch below are recommended for the "40-40" transceiver board, but the idea can be applied to just about any size box. The beauty of this arrangement is that once the covers are removed, both the top and bottom of the circuit board are readily accessible. The circuit board itself is soldered to lugs mounted directly to the enclosure sidewalls.

This design uses flat aluminum stock for the enclosure walls and PC board material for the top and bottom covers. Assembly is simplified by forming the front and side walls out of a single length of metal.



You'll need a few garden-variety tools:

- Bench vise
-T-square
- Hacksaw
-Flat File
- 4-40 tap and drill
- and ideally - a drill press

Materials:

• The enclosure sidewalls are made from 1-1/2" x 1/16" flat aluminum stock. This is available at home supply places for about 5 dollars an 8-foot length, and is also available in 1" width. I've used this material in "tiny rig" applications but fair warning: a 1"-high rig just doesn't leave much space for grasping the control knobs!

• Single-sided PC board material for the top and bottom covers.

• 1/4" x 1/4" aluminum or acrylic bar stock is used to fasten the two sidewall pieces together. This stock can be obtained from aluminum or plastic supply houses. The plastic material may also be found in quilting supply shops under the guise of quilters' seam guide. A 12" length costs about $2.

Metal-bashing:

The U-shaped portion of the enclosure is made from a 12.5" length of flat stock. Mark and make the first bend 4-1/16 inches in from one end. The second bend is made another 4-1/16" from that corner to yield an inside dimension of approximately 4.1 x 4.1 inches. This leaves a little excess at one end, which should be trimmed off even and squared up with a file (this beats the heck out of trying to control the bend radii to make it come out right!)

Bending notes: Use a pair of wood blocks to protect the metal surface. Mark the metal on the inside of the bend to show you where to make the bend. Use the T-square to align the metal strip carefully perpendicular to the block edges and snug the vise down tight when you're satisfied. (This step assures that when you lay the finished "U" shape down it lies flat.) Bend the metal to 90° by pressing firmly at the base of the protruding section. Repeat for the other bend to complete the "U". Buff the metal with extra fine steel wool for a nice finish.

Measure the enclosure inside-width at the front panel and cut and file the rear-panel piece to match that length. When you're filing the metal, always hold the file flat on the work surface so the resulting edge is straight. Check with the T-square to ensure the result is square.

Drilling: Use a small center punch to mark your hole locations! Nothing's more discouraging than seeing electric-drill marks skittered across that nice clean metal surface. If you haven't got one of these inexpensive ($5) items, use a sharp nail and hammer to mark the hole location. Measure carefully!

Mounting Posts:

Tapped 1/4"-square stock is used as shown in the figure to provide a place for the top and bottom covers to fasten to. The rear corner posts also furnish a means of bolting the 2 wall pieces together. A # 4-40 tap, consisting of a small threaded tool and accompanying twist drill, is available from your home supply emporium for about $5. A drill press is helpful to ensure a clean vertical bore into the material. Follow instructions provided with the tap to ensure that it doesn't doesn't choke up and bind. (If you're working in plastic, plan on shattering a couple of work pieces before you get the hang of it!) If you're ambitious, all of the holes in the square stock may be tapped to yield a trim interior appearance. Use a 1/8" drill for the sidewall holes to permit assembly with #4-40 machine screws and hardware.

Covers:

The PC-board material may be cut with a hacksaw. If the material is light enough it may also be cut with tin snips. Scoring it thoroughly with a sharp blade and restraining it in a bench vise and snapping it is also feasible. Cut the piece very slightly large and flat-file to match the box outlines. A little extra filing is needed at the front corners to match the bend radii. A set of press-on rubber bumper feet (Radio Shack) completes the bottom cover. #4-40 x 1/4" machine screws affix the covers to the sidewalls.

Installing the circuit board:

A set of 4 holes drilled 3/16" above the bottom left and right edges of the enclosure is used to support the circuit board. A #4 solder lug, bent 90°, is used at each location to provide mounting points for each corner of the PC board. Pre-tin the board at the points where the lugs will touch. You'll be able to hold the assembly together in one hand while wielding an iron with the other to tack several corners down. You can then lay the assembly down to complete the soldering with both hands free. Use a large iron (≈100W) to ensure adequate heat flow.

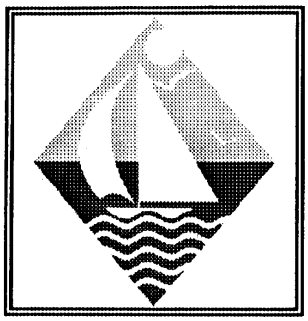
"*Plan B*" - or- " There's more than one way to skin a cat"

Another way of putting together a cheap and compact enclosure is to make the assembly exclusively out of PC-board material. This doesn't yield as slick-looking a product as I just described, but it goes together easily. The idea here is to build a box barely wider than the PC-board width and mount the board to the sidewalls using the solder-lug idea. The corners of the enclosure are soldered along the seam length to eliminate the need for mounting posts. You'll still need a way to fasten the covers to the sidewalls, and several methods can be used. The first method was suggested by Zack Lau (KH6CP/1), using strips of PC-board material inset within the enclosure (see sketch). Mounting holes for the covers are drilled and tapped. The second method uses brass hex nuts soldered to the sidewalls to furnish a way to attach the covers with machine screws. As with the custom enclosure I described earlier, a "manly" soldering iron is needed to assemble these versions as well.

(*Or you could go commercial:*)

Ten-Tec is a good source of ready-made enclosures at reasonable prices. They offer both unfinished and painted versions in a wide variety of sizes. If you'd like further information, call them at 1-800-231-8842 and request an enclosure catalog. They'll support single-quantity orders and also accept credit card orders. I've been using the TP-20 enclosure in the past, and this item measures 5.0"(w) x 4.3" x 2.1". Best of all is the pricetag- about $5 in single-lot quantities! If you're using this or other commercial enclosures for the "40-40", the board mounts to the enclosure using the four corner holes and #4 spacers and hardware.

That's it. Good luck and happy homebrewing!



QRP From The Bahamas

Frank Roberts-VE3FAO
Brampton, Ontario

The idea of taking a ham rig to the Bahamas started six months before the trip when I thought it would be fun to work QRP back to Ontario. The first step was to get a license to operate from C6A land.

A couple of years ago I had received some information about licensing in the Bahamas from Robert-K1XA and took his suggestions. The current rate for a reciprocal license is $6.00 US or Bahamian dollars. I sent them a $10.00 US money order along with a copy of my Canadian License and a copy of the front page of my passport showing my citizenship, picture and signature. The covering letter explained the location and dates of the proposed operation. Six months was not an excessive lead time because the license arrived only two weeks before our departure. Their address is 'Bahamas Telecommunication Corporation, PO Box N-3048, Nassau, Bahamas - Telephone (809) 323-4911.

Bahamas Telecommunication Corporation

The next decision was about equipment. Operating an all Homebrew station appealed to me since I already had most of the gear and, with some planning, the entire station could fit into a briefcase that I could carry on the plane. Some work on the bench to assemble a dipole antenna, connectors and cables along with an antenna tuner completed the station.

And so it was, that I arrived at the airport early Saturday morning with my briefcase QRP station in hand. I normally have the Canadian customs office identify all equipment like cameras and radios before taking them out of the country to make the re-entry a lot smoother. When the customs officer tried to find serial numbers on the equipment I explained that it was all homebrewed, to which she replied: "The next time you homebrew equipment, homebrew a serial number on it." A whimsical remark possibly, but a very good idea and one I intend to use. She stamped the itemised list I had and I was on my way to Nassau--well not quite.

One look at the X-ray screen and the security officer panicked!

Carrying the briefcase on the plane to prevent damage was all right until we went through security. One look at the X-ray screen and the security officer panicked! He called over the supervisor who took me aside for a closer look inside the briefcase. I think it was the black 12V rechargeable battery that got to him, along with all the home made equipment. In retrospect, I guess it did look rather ominous! To paraphrase his remarks, there was no way I was going to be allowed to carry my rig, whatever it was, on board! My wife went on to the departure lounge, while the security supervisor took me and my QRP rig to the Air Canada luggage supervisor. After more explanation and negotiation, I was allowed to seal it in a box and send it as checked luggage. Another good idea came from this encounter as well. The luggage supervisor advised that I check it only as far as Miami where we changed planes. That way I could claim it and keep it with me so it would not get lost or damaged during the transfer at Miami International. This worked out well and I was able to inspect the equipment between flights, then recheck it as baggage with the next carrier
--no more security episodes for me!

I had prepared for a lengthy encounter with Bahamian officials when we arrived in Nassau. I have to thank the fellow hams who preceded me over the years for paving the way. One glance at the equipment and a short comment about my plans was all it took to get a clearance stamp and well wished for pleasant stay. However, VE3FAO/C6A didn't go QRV until Monday afternoon.

Along with the license I received a list of frequencies that could be used by amateurs in the Bahamas, and much to my dismay it showed that CW operation was not authorised between 14.000 and 14.050. Since my Xcvr only covered 14.000 to 14.060 it looked like the planned operation would be very restricted during the trip. The same document indicated that FSK was allowed between 14.000 and 14.050 so I suspected this might be a typographical error. To be on the safe side, I waited until Monday morning and went to the Bahamas' Telecommunications' offices to confirm my suspicions.

It, too, was a worthwhile venture. They were very co-operative and appreciated my effort in pointing out the document's error. I also learned during the meeting, that the license was not only valid through to December 31st., but can be renewed by sending in the annual $6.00 fee. I even had an account! It contained the balance of my money order waiting to be applied toward next year's renewal.

The condominium we were using had a cathedral ceiling with a good 16 foot of slope on each side. Getting to the 25 foot apex to attach the dipole was a bit of a challenge, but with the help of a chair on top a table at the edge of the loft and some acrobatics, it was affixed and ready to go.

Believe it or not, the next three days we had solid QSO's

From an operations standpoint, the main objective was to keep a daily schedule with my brother Ken VE3BGW in Ontario. He had just moved into a new house and had not put up an antenna, so he also had an indoor dipole, about 8 feet above ground. The first two days were unsuccessful so I decided to re-orient the antenna and moved one leg of the dipole so it followed the main beam of the apex and was at right angles with the other leg. I learned later that Ken had also re-arranged his dipole at the same time and had it draped over door frames etc. so it was broadside to me. Believe it or not, the next three days we had solid QSO's with each other using indoor antennas at both ends and my 4.5 watt QRP Xcvr running on batteries. It must have been the salt water which was only a few feet away from my rig.

Since the main reason my wife and I went to the Bahamas was not ham radio, additional operations were limited to a few rag chewing type of QSO's. They were mostly with QRP enthusiast, such as Dennis-K1LGQ, who encouraged me to join NE-QRP and contribute these comments to the Newsletter.

It was a great holiday and I was able to keep a balance between ham radio and R & R. Would I do it again? Your darn right I would! Would I change anything? Not really, but I would take along an additional HB Xcvr for another band and maybe allow more time for operating.

Frank Roberts - VE3FAO
Brampton, ONTARIO

The New England QRP Newsletter "72" and More.

Review and Commentary by Bob Gobrick
VO1DRB/WA6ERB

The QRP Community has been happily spoiled by the number of high quality QRP newsletters sprouting up everywhere and I'm sure some of the credit goes to the inspirational "flow" of material generated by the Internet QRP List. Isn't the Infobahn phenomenal? (I Just finished reading my first issue of "Wired" magazine and have decided to sprinkle my writing with techno-jargon to elevate my vocabulary above my Extra class license level.)

During the excitement of leaving for the Dayton Hamvention I picked up my April 94 issue of the New England QRP Club newsletter "72". Just finished reading it cover-to-cover and all that can be said is "Great Job Gang". The newsletter is done in traditional portrait style with 13 double sided 8 ½ x 11 inch pages. The NE-QRP editorial team followed a "regional" newsletter format with a good mix of New England QRP activities (I include Newfoundland, Canada as part of "regional" New England) and a good number of high quality QRP technical articles.

A short sampling of the index shows the lead technical article on the New England 40-40 and 30-40, a pair of $40 club transceiver projects, announcements about the QRP-Hamming Bicycle tour, Internet, NN1G transceiver building notes, NE-QRP meetings, nets and Officer reports (yes, officers — the New England QRP Club, in true "Yankee" tradition, has delegated officers to spearhead the varied club activities), a review of the QRP Plus and finally two great technical tutorials.

Tutorials—now that's a subject forgotten about by the old time QRP'ers (QRP'ers for more than a year) with their frenzy of building this month's "hot" club and commercial kit offering. The "72" editors were able to capture the essence of beginner tutorials by these two articles. The first was a two part series on "A Lesson in Kit Building Part I" by James, KAØIQT dealing with all kinds of simple ideas on building (some even the old Heathkit manuals didn't cover). Second, was an article by NE-QRP member Dennis, K1LGQ on Charts & Graphs — little tidbits put in graphical form (I noticed the little chart on Time Conversion didn't list Newfoundland Standard time which differs by half hour from Atlantic Standard time. Oh well, maybe Dennis doesn't consider Newfoundland part of New England— I'll ask the Queen to summon him on that).

Congratulations to the New England QRP club for a great newsletter. If you've read this far, I'm now going to change gears and ask for your thoughts (in an open forum) on QRP newsletters. I believe the folks on the Internet QRP List are in a good position to evaluate and comment on the information that is presented by the regional QRP clubs. I'll come forth and admit it—I am a QRP information junky. I subscribe to newsletters from the ARCI, G-QRP, New England, Northern California, Michigan, Northwest and North Texas (K5FO) QRP Clubs as well as the day-to-day info-flow on the Internet QRP List. I can't get enough of this addictive stuff. I've been known to stalk out the mailman (excuse me, mailperson) to see what NEW newsletters have arrived, so I don't miss a thing. I'm now contemplating joining the St. Louis, Colorado, Oklahoma, Australian, Czechoslovakian, etc. QRP clubs for their newsletters. Is there a cure for this— HELP!

That brings us to the question of what services the International QRP Club newsletters (like the G-QRP Sprat and ARCI QRP Quarterly) should offer and what services should the regional QRP club newsletters offer. My thoughts are that the International club newsletters should cover the activities that the regional clubs are not capable of covering, like QRP contest management, major QRP events (Dayton and Dallas hamfests) and member news that is of interest to all. Additionally, the International QRP Clubs should pick the best tutorials, the best equipment reviews and the best technical projects that come from the regional QRP clubs and publish these along with additional comments from their technical review committees.

The Internet QRP List is frequented by some famous ARCI board members as well as some more famous regional QRP club officers. Thus, this would be a good opportunity to give them some positive feedback on the great jobs the QRP clubs are doing with their newsletters and your thoughts on the direction they should be taking. Also, it should be recognized that publishing QRP club newsletters is an effort of many unpaid, enthusiastic QRP volunteers and for some a true love of the hobby with the desire to spread the "word". There should only be a desire to praise these volunteer efforts—let's save the critical reviews for the commercial publications.

dah-dit-dah
Bob Gobrick NE #94 - VO1DRB/WA6ERB

(Ed Note: thanks for the kind words Bob. Let's hear from you again. Dennis K1LGQ)

Meeting Minutes

Jim Fitton - W1FMR
President NE-QRP #01

A New England QRP Club meeting was held at Rochester, NH on May 7, 1994 at the Hosstraders' Swap Meet with 23 attending the outdoor shouting match which lasted about 30 minutes. The next meeting at Rochester will be away from the announcement loudspeakers. Talk about QRM!

Attending the meeting were: Bill Legge - NT1R, Carl Heidenblad - N1CUU, Steve-N1NPI, Dennis Marandos - K1LGQ, Cheryl Pecor - N1RVF, Jim Fitton - W1FMR, Mark Swarthout - NX1K, Larry Olsen - K1LO, Mike-N1IST, Harry-McDade - W1LMU, Andrew-KA1YVX, Zack Lau - KH6CP, John Collins - KN1H, Mike Schmill - N1JYT, Ernie-AA1IK, Richard-KD1BF, Jon Tracy - N1QOL, Michael-KC1SX, Chris Kirk - NV1E, John Liss - KA1FRT, XYL's Janice and Gail, and SWL Ed.

Mark Swarthout - NX1K, talked about the upcoming ARRL Field Day and recruited band captains for the event. Anyone interested, please contact him now so you can be part of the Field Day events. Get in touch with Mark Swartout - NX1K, 26 Harriet Ave, Shrewsbury MA, 01545.

Dennis Marandos - K1LGQ talked about *72*, the club newsletter, and encouraged club members to write articles or send comments. The newsletter deadline for the fall issue is September 15, 1994. Dennis will take your articles or notes, make any corrections if needed for it to look terrific in *72*. Put your thoughts down on paper, disc (MS-DOS), or E-mail and Dennis will take care of the rest. (Dennis Marandos, 42 Cushing Avenue, Nashua, NH, 03060-1816) (E-mail mvjf@mvubr.att.com)

Bill Legge - NT1R encourages members to write about station activities and people events in their lives and to send them to him, because all members enjoy reading about each other. Short autobiographies are especially interesting, for example how did you get into radio or QRP operating? Write a short QRP history about yourself or your Elmer, or a good friend who deserves to be recognized. Send your copy to Bill, who will also edit your story so it looks great in *72*. Bill Legge - NT1R, 232 Foreside Road, Cumberland, Maine 04110.

John Collins - KN1H, encouraged members to send technical articles to him and he will do the final editing in time for the newsletter. Send it in any form and John, an expert at technical editing, will enjoy making your article presentable for the pages of *72*. John Collins KN1H, Box 427, Cornish NH, 03745.

Bill McNally - AE1D, presented a PC7300 computer with modem, donated from W1FW - 'AT&T Merrimack Valley Amateur Radio Club,' to QRP-NE. It will be used by Jack Frake - NG1G, our membership manager.

Rich Cosma - KD1BF, took photos at the Dayton HamVention for the *72* newsletter.

At Rochester, flyers were handed out for the new NorCal Sierra XCVR, NorCal-40 partial kits, and the upcoming QRP-AFIELD event scheduled for September 17. (See story elsewhere in newsletter), QRP-NE Forty-40 kits, and *The History of QRP* by Ade Weiss, WØRSP. Flyers are still available if you were not present to get yours! Send an SASE to: Jim Fitton - W1FMR, Box 2226, Salem NH, 03079

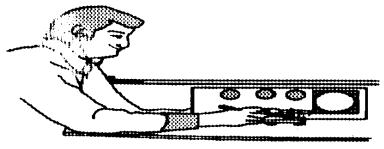
An announcement was made that the trophy for the -NEW ENGLAND QRP event called "QRP-AFIELD" was donated by Chuck Adams - K5FO, of the N. Texas QRP Club. Thanks Chuck for you deep interest in QRP activity.

Two members of the famous Forty-40 "Kit Squad" were present: Mike Schmill - N1JYT and Ernie-AA1IK from VT. The club has been getting very favorable reports on construction and operation of the club kit #2 transceiver sent out so far. Another run of kits is planned for July. (SASE to Dave Benson - NN1G, 80 E. Robbins Avenue, Newington, CT 06111 for more information.)

Used Flea Market rigs and prices seen in Rochester, NH: TT 509 w/409 ampl. $350, Rough TT509 $260, Clean TT 505 $200, HW8 - fair $75, HW-7 $60, OHR Sprint $120, MFJ 9020 $130.

I hope to see and hear you all at Field Day, the Beach meeting, ARRL New England Convention in Boxboro-MA, Hosstraders, or QRP-AFIELD.

72' Jim Fitton - W1FMR QRP-NE #01
E-mail mvjf@mvubr.att.com



72

Know Your Neighbor...!

Part II

As a follow-up to last issue's membership list, the following names are the 'coolest' to join the ranks of the New England QRP Club. Also, there are special features in becoming a NE-QRP member which through your unique NE-number, you can swap with others on the air. See how many NE-numbers you can collect, and see who else is part of this fast growing, fun power, highly exciting organization. If you're on the inactive side of operating, use your ticket, get radio active and become involved. Renew your membership and get hot! Some of your best friends are on the air waiting to hear from you!

73

(Part II)

254 Shane Brady - WB2WPM
253 Chandler Eaton -W1IFL
252 Ron Majewski - WB8RUQ
251 Robert Schmeichel - ?
250 Gary Diana, Sr. - N2JGU
249 Gilbert Pilz - K9IQP
248 Steve Hideg - N8HSC
247 Magnus Krampell - SM7IFK/W2
246 Jeff Anderson - WA6AHL
245 Jack Driscoll - N1MVO
244 Cam Hartford - N6GA
243 Alan Hicks - KD1DJ
242 Bob Finch - N6CXB
241 Mike Pulley - WB4ZKA
240 Rev. Geroge Dobbs - G3RJV
239 Rich Arland - K7YHA
238 Walter Thomas - WA4KAC/3
237 Bruce Muscolino - W6TOY
236 Larry Jones - N5OSG
235 Richard Richmond - N4AFX
234 Name Call - N8AAN
233 Randall Phelps - KD8JN
232 Patrick Tendam - WS8T
231 Jim Lyons - VE2KN
230 Myron Koyle - N8DHT
229 Mark Gustoff - WO7T
228 Ralph Muzzy - N1DXU
227 Duane Waller - N1BBR
226 Robert Bertyn - N1PWU
222 Chuck Adams - K5FO
213 John Evans - N3QOO
209 Donald Welsh - WD4DXP
178 Larry Selman - AA6MV
174 David Long - KB2LRI

* * * * * * * * *

100 Roger Gregorio K1MBX (*)
99 Stephen Ciavarini NQ1F
98 Walter Millard K4JVT (*)
97 Norman Stone WG1C
96 Frandy Johnson N1FJ (*)
95 Barbara Shutt NK1I
94 Robert Gobrick VE2DRB
93 Richard Fisher KI6SN
92 Anthony Colaguori W2GUM
91 Albert Libby KB1FK (*)
90 Ben B. Hutton KT1H (*)
89 Karen Garrison AA1AH (*)
88 Richard Cosma KD1BF
87 Larry Gallant W1ZNM
86 Harry McDade W1LMU
85 Robert Spidell W6SKQ
84 Jerry Webb N1IHT
83 Arnold Chick WK1H
82 William Crowley K1NIT
81 Dennis Vincent WW1P
80 Richard Wallner K9WYP
79 Frank Milos NO1E
78 Lloyd Roberts AA1DL
77 Edward McGuigan KA1KXR
76 Edward Pacyna W1AAZ
75 Joseph Dumais WB1EMB
74 James Evans N1HTS
73 ***non-issued number***
72 ***non-issued number***
71 ***non-issued number***
70 ***non-issued number***
69 ***non-issued number***
68 ***non-issued number***
67 ***non-issued number***
66 Arthur Haley K1TCI
65 Fred Bonavita W5QJM
64 Emory Schley N4NCU (*)
63 William Todd N7MFB
62 David Gauding NFØR
61 Frank Lempicki AA4ZS (*)
60 John Westphal W8YNA (*)
59 ***non-issued number***
58 Chester Bowles AA1EX
57 Lawrence McDerby KA1UUN
56 William McNally AE1D
55 William Mann W1KX (*)
54 Pamela R. Bauer KA1QVE
53 Dale P. Clement AF1T
52 John Gaidos N1HFE (*)
51 Richard Aubin WA1TRY (*)
50 Tim K. Cook NZ8J
49 James Johns KAØIQT
48 Andrew Morrison KZ1L (**)
47 Paul Levesque KB1MJ (*)
46 Dennis Williams N1GTA (*)
45 Randy Rand AA2U (*)
44 William Wawrzeniak W1KKF (*)
43 Robert Biancur WB1GYA
42 ***non-issued number***
41 Alan Pike NT1V
40 ***non-issued number***
39 ***non-issued number***
38 Jean Jibouleau VE2GHI (*)
37 Wayne Burdick N6KR (*)
36 Rick Mills WA1WPR
35 ***non-issued number***
34 Stephen Capogna NO1R
33 Michael Czuhajewski WA8MCQ
32 Kathy Mills KA1UEH
31 Thomas Barbish WA1OFT
30 Thomas Kilroy WK1G (*)
29 ***non-issued number***
28 George Gingell K3TKS
27 Dana Michael W3TS
26 Robert Coakley KX1E (*)
25 Charles Brown W1HZE
24 ***non-issued number***
23 ***non-issued number***
22 Randy Jones KA9HAO
21 ***non-issued number***
20 William Legge NT1R
19 Thomas Magera KA1CZF
18 Frank Darmofalski W1FD
17 Dan Halbert KB1RT
16 Robert Wallace W1HH (*)
15 Albert Bates W1XH
14 Paul Clark WA1MAC
13 Larry Spinak KI2L
12 Greg Algieri WA1JXR
11 Jeffrey W. Bauer WA1MBK
10 Zack Lau KH6CP/1
09 Paul Kranz W1CFI
08 Mark Swartwout NX1K
07 Andrew Freeston KA1VYX
06 Dave Benson NN1G
05 Jim Kearman KR1S
04 Carl Heidenblad N1CUU
03 John Collins KN1H
02 Jack Frake NG1G
01 Jim Fitton W1FMR

73

QRP AFIELD-1994

QRP Afield-1994 is sponsored by the NEW ENGLAND QRP Club and is designed to encourage QRP enthusiasts to field-test their radio equipment, using temporary antennas and non-commercial sources.

Date/Time

Saturday, September 17, 1994 from 1600Z to 2200Z

Exchange

QRP-NE Members:	RST, state/province/country, NE-QRP #
Non-members:	RST, state/province/country, power OUTPUT.

Definitions

Permanent Location:	Any location using commercial power **AND/OR** permanently installed antennas.
Field Location:	Any location using battery/solar/natural power **AND** temporary antennas.
Low power QRP:	Less than one watt output.
High power QRP:	1 to 5 watts output.

Scoring (CW only)

1 point for each contact from a permanent location using high power QRP.
2 points for each contact from a permanent location using low power QRP.
4 points for each contact from a permanent location using high power QRP.
8 points for each contact from a permanent location using low power QRP.

Note: **All contest contacts MUST be made using the same location and power output.**

Multipliers

Each state/province/country worked counts for one point. Multipliers may be counted ***only once***, regardless of band worked.

Awards and Results

Certificates will be awarded to the ten stations with the highest point totals. Complete results will be printed in ***72*** newsletter. Results will also be available by enclosing a #10 SASE with the contest submission.

Address

Chester (Chet) Bowles - AA1EX
RFD #2, Box 335L
Sharon, NH 03458

QRP AFIELD-1994

Entry Form

New England QRP Club

Name _____ Call _____

Address _____ QRP-NE# _____

City _____ State _____ ZIP _____

Total Number of Contacts		_____
Points per Contact 1	**X**	_____
Total	=	_____
Number of Multipliers Worked[2]	**X**	_____
FINAL SCORE	=	_____

1. Points per Contact:
   1 point for each contact from a permanent location using high power QRP.
   2 points for each contact from a permanent location using low power QRP.
   4 points for each contact from a field location using high power QRP.
   8 points for each contact from a field location using low power QRP.
   Note: All contest MUST be made using the same location and power output.

2. Multipliers: Each state/province/country worked counts for one point. Multipliers may be counted only once regardless of band worked.

Transmitter/XCVR _____ Power output _____

Receiver _____ Power Source _____

Antenna _____

Location _____

Comments: _____

_____

_____

Submits logs and dupe sheets to:

Chester (Chet) Bowles - AA1EX
RFD #2, Box 335L
Sharon, NH 03458

P.S. Please include photographs, if you wish. A collage will be displayed at flea markets and club presentations. Pictures may also be used in publications, so please be sure your name and call are written on the back of each picture and who should have photo credit. Identify all members in the picture. High contrast pictures (good white with deep black) are best for reproducing.

Ten Parts or Less
A challenge!

Jeff Herman- NH6IL

If there were a contest to come up with, a transmitter containing as few parts as possible, this would be the winner. Ten parts is all if you include the key, battery, and antenna! In the CODE/NO-CODE debate, some pro-coders will mention the simplicity of CW transmitters as opposed to those of other modes. This circuit really drives that point home.

We've heard a lot of talk about how costly ham gear is today-but, all this rig will cost you is the effort to find an old color TV chassis. That's the parts source for all my QRP transmitters, and this is why I'm passing this information to you.

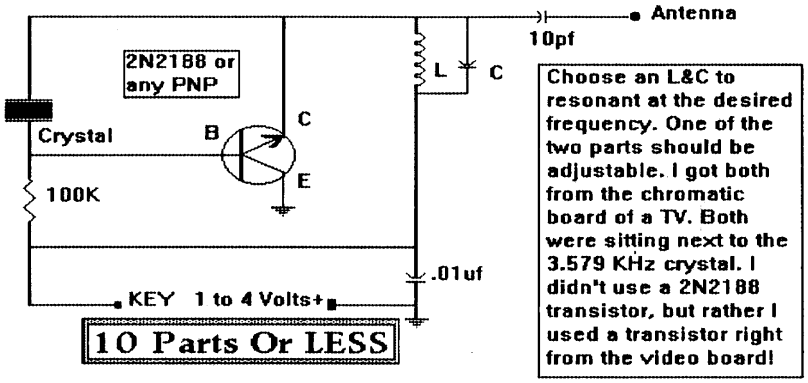
Normally, I post these transmitters only on E-mail systems and on the QRP mail group; however, if you've missed the first dozen transmitter circuits, E-mail me and I'll send them to you.

I built this circuit for 80M only because I've got so many 3.579 KHz crystals from old TV sets, but this diagram can be used on any HF band-just choose L and C to resonant at the crystal frequency.

For peace of mind, you might want to add a bandpass filter to the output.

Again, choose an L&C combination to resonant at the desired frequency. One of the two should be adjustable. I got both from the chromatic board of a TV-both were sitting next to the 3.579 KHz crystal. Easy, huh? I didn't use a 2N2188 transistor, but rather, a transistor right off the video board of the TV. Don't you dare buy one component for this circuit - just dig through your junk box, or your neighbor's trash for an old TV. With a good antenna, those are the magic words in QRP work, this little peanut-whistle will provide hours of pleasurable QSO's. OH, 3.579 KHz has become a national QRP frequency due to the easy availability of these crystals.

72' Jeff Herman-NH6IL



→ *New England ARRL* Convention ←
TOP Speakers Scheduled For October 1994

If you are going to be in the Boston area on October 1994, then plan on attending the "New England ARRL Convention" at Boxboro, MA.

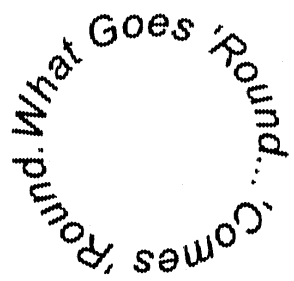
★★★Famous QRP Contester and DX'er★★
Randy Rand—AA2U

Randy will show how to easily work DX using QRP, and how his modest DX station has evolved into a super QRP DX and Contest station.

★★★Famous QRP designer★★★
Dave Benson—NN1G

Dave will show how he designed the simple, high performance series of Forty-40 transceiver kits for New England QRP. Dave will provide hot tips for the QRP Home Brew set. This is an event you don't want to pass up. Look for you there in October!

72' W1FMR - Jim Fitton NE#01



Steve Gregg - N9RKS
Indianapolis, IN

CQ CQ CQ...CQ 75...CQ CQ CQ...this is K1LGQ calling CQ from the shores of Squam Lake...in central NH...calling CQ.

"Hey Dennis, will it load up? What's the 'match'? Are we getting out?" I was 15 years old, an avid tinkerer and electronics enthusiast. My friend Dennis was the "HAM," (and licensed, too)...K1LGQ.

Home on vacation, I had invited Dennis and his radio to come to Squam Lake to spend a few days of fun. We had fixed up the cabin, found a coil of #12 bare wire in the garage and we were trying to see if this would work as an antenna. We had it strung out along the shore and into the woods some 400 feet; waist high, tree to tree, bush to bush. This was to be an "End Fed" antenna. So, we had it strung through an open window and "plugged in" directly to the center contact of the female PL-259 connector on the back of Dennis' Harvey Wells T-90."

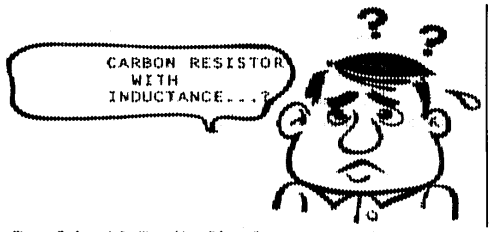
It had started to rain lightly and it was about 2:30 in the afternoon. "Dennis, is it loading up or not?" It seemed to me like he had been "tuning the plate" long enough.

"Knock knock...is anybody home? My name is Frank Lyman and I am from across the cove." He said as he pointed in a westerly direction, toward the far shore of Livermore Cove. "I am W1KD."

"Wow," I thought to myself, "a guy with a two letter call." Well, I did not know Mr. Lyman very well but here he was in all his glory having found another "ham," right next door. He was driving a gray, beat-up '58 T-Bird convertible and as I recall, he had a military surplus transceiver which he had tuned to the marine frequencies in the Boston area so he could use the marine-mobile ship-to-shore operator. He had a rain slicker on, no hat and "looked behind you," when talking, as if someone was standing right behind you. You kind of wanted to turn around and see if someone else was there. He said, "Come over and see my rig. I have an old Navy transmitter I'm trying to tune up and that's when I heard your call." We knew where he lived. He built "that tin roof" house which reflected the sun onto the shoreline in the summer and had a 32 foot Chriscraft named PANDA, which was always loaded with kids of all ages and made a wake "some 4 feet high" when they were water skiing. Yup! Dennis and I thought we could find his place from the road and so we said we would be over.

Mr. Frank Lyman then left and we proceeded to try and make contacts. I had no idea of the real significance this event was to have over time. For without the experience and memory of Frank Lyman, W1KD-The Ham Radio Operator, I would not, some 32 years later, be Steve Gregg-N9RKS, Ham Radio Operator. Seventy-three's and thanks for the memories...CQ...CQ.

(DX note: Frank Lyman-W1KD established the first UHF commercial television station in Boston, which is channel 56. Steve Gregg-N9RKS is an avid QRP'er and enjoys listening and tinkering...still.)



Careful with Radio Shack power resistors...!

I built a few tuning bridges (~SWR) using the circuit from page 152 of *Solid State Design*, ARRL publication. The bridges were similar to figures 27 and 28. The resistors came from Radio Shack and are metal oxide type 100 ohm---one watt, catalogue # 271-152.

Two resistors were placed in parallel to provide 50 ohms---2 watts and were substituted for the 47 and 51 ohm values called for. The bridges work great up to 28 MHz, but I did not try higher frequencies. The wiring was kept short with direct connections plus a terminal strip was used instead of a printed wiring board.

I crushed one resistor and found 1 or 2 turns of high resistance wire acting as the resistance element. This of course has inductance but is very small and could not be measured on my LC bridge or detected with a grid dip meter. The inductance does not prevent the tuning bridge from completely nulling (reading zero) with a 50 ohm dummy load connected to the "ANT" terminal up to 28 MHz.

The tuning bridge will be used with the "40 Meter Transmatch" circuit shown on page 167 of *Solid State Design* (ARRL publication). The bridge replaces the one shown because of the easy availability and low cost of Radio Shack power resistors.

This transmatch is presently prepared for the QRP-AFIELD activity taking place on Saturday, September 17, 1994. Look for you there!

72' Jim Fitton - W1FMR NE#01

You Can Pay Me Now
or
YOU CAN PAY ME LATER.

A Lesson in Kit Building Part II

James R. Johns - KAØIQT

(Editor's note: In this final installment, Jim KAØIQT, leads us through component testing and trouble shooting our way to kit building success.)

Measure all passive components before mounting them in the circuit. I use a digital ohmmeter to measure resistors and a small inexpensive digital capacitance and inductance meter to measure capacitors and inductors. This avoids problems with mistaking violet for brown on resistors and avoids problems with capacitors and inductors with strange value markings. I do have to admit that in 26 years of kit building that I've found only 2 or three "bad" parts through this testing. I have, however, avoided misinterpreting component markings on many small parts. I also quick-test diodes for forward conductivity and reverse open using the diode test mode on my Fluke model 77 Digital Volt Meter (DVM). An ohmmeter will also work but make sure that you know which lead of the meter is connected to the positive source of the test supply and that the voltage used for resistance measurements does not exceed the maximum ratings of the components under test. Most modern DVM's are not a problem. I don't bother to test transistors or ICs if I am building a kit from a reputable manufacturer.

Orient all similarly facing components on a board so they can be read without rotating the board. This is an easy hint that makes it much easier to review the values of components that have been mounted on a PC board. For silk screened PC boards this is easy as the component assignments are usually printed in this manner. For boards without silk screening I usually assign one side of the board as the top and orient all components so I can read their values with the top up.

Look closely at all drawings and figures. Make sure that the connectors, PC board and other components are oriented exactly as shown in any drawings or figures supplied with the kit. This will ensure that you don't accidentally miswire a headphone jack, power connector or key jack. If the drawing shows the connector installed in a particular manner, there may be a good reason why it should be installed that way.

Don't drop crystals on the bench or on the floor. Crystals are sensitive to shock and dropping them from a bench onto a hard floor surface can cause them to shift in frequency or at worst stop operating altogether.

Exercise caution around static sensitive components. Try to wear natural fabrics (including your socks) and use a static guard wrist strap where possible. If you don't have a static guard strap, try to ground yourself to something for a second or two before handling those components packaged in the black anti-static foam or in IC shipping tubes. Failures due to static discharge are not only frustrating but difficult to isolate as they appear seemingly at random.

If a problem arises with a kit, try to think logically through the circuit operation and use a what-if technique to imagine what type of failure might cause the symptoms. In other words if your new receiver has no audio out, make a list of everything that might cause the symptoms, rank them in a priority order and then check the circuit for those possible failures. Of course if you have carefully checked all the passive components before installation and have carefully examined all solder connections and there is power applied to the circuit, you can initially eliminate many of the possible failures from your list. If all else fails, you can have a friend check out the component installation or make a tape recording of the parts list and play it back while you verify every component on the list. The tape player allows you to pay attention to the circuit and not have to keep referring to the parts list or schematic.

Make voltage and power measurements. After the kit is up and running, take a few minutes to record the normal operating voltages and currents in the kit. This will make it much easier to troubleshoot the project if it ever should stop working. As the title of this article states, "You can pay me now, or you can pay me later."

Enjoy the process. In my opinion the real fun of kit building is the process of constructing the kit itself. Don't rush the kit and not only will you enjoy kit building more, but you will probably have fewer problems getting the kit working in the first place.

James R. Johns
KAØIQT

Jim was first licensed in 1968 and currently holds an Extra Class license. He is a registered professional engineer in the state of Colorado. He is employed by the MITRE Corporation in Bedford, Massachusetts where he works with high speed computer networks and systems. In his spare time, Jim likes to design and construct QRP transmitters, receivers and transceivers. He can be reached at 617-271-3757 (WP), 508-692-9311 (HP), 617-271-2423 (FAX) or via Email at jrjohns@mitre.org.

Death to Hiss-s-s-s-s-s-s-s-s-s-s!

Chuck Vaugh - AAØHW
10435 St. Charles Road
St. Ann, Missouri 63074

Death to hiss and all high frequency distortion. Those ssssssss sounds and shrills have gotten way of proportion. Causing mental fatigue, this distracting annoyance has been defeated...by shear dint of defiance.
The battle cries of the enemy are heard no more and my speaker is now deaf to his high frequency roar!

For the last couple of years, I have been listening to hiss and just putting up with it. The rig I have is very noisy...even with the volume all the way down. And if you hear a weak signal and you want to turn the volume up to hear it---for get! All you will get is a lot more hiss. Recently I found a set of very efficient headphones. I noticed a better fidelity, however, the hissing in the background was now even louder than before. I began my quest to rid this pest. I tried several types of filters after the final audio output to reduce the hiss such as the filter in a handbook that uses surplus telephone 88mh toroids; I made a double tuned, parallel resonant, low pass, inductively-coupled, critically tuned bandpass filter. I also experimented using two 12volt/110 volt transformers back-to-back, where the input and output were the 12 volt windings and the 110 windings were hooked together with about 4µf of capacitance across them. They had all worked with some degree of success but not as much as I had hoped. The first two had harmonic distortion and as soon as you tuned the power up a little bit, the distortion really got bad. The two 12 volt transformers worked okay, but...it just did not sound that great. Finally, I was leafing through the Radio Shack catalogue and came upon a 3-way speaker crossover network. I t stated a cut off frequency at 800 Hz for the woofer which was almost the same frequency as my side tone, and it cost only about $15. It would handle 100 watts of power and I thought it was worth a try and bought the 3-way crossover network. The Radio Shack number was 40-1299A.

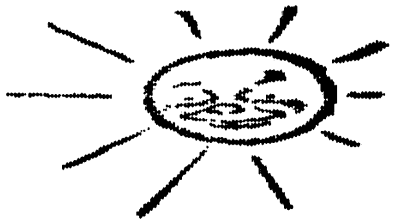
The network has two coils and 4 capacitors and I suspect the value of the two coils is around 1mh and 0.5mh. The values of the 4 capacitors are 24µF, 12µf, 4µf and 2.7µf and they're non-polarized! I unsoldered the components so that I could modify the circuit with the lowpass cutoff slope at 12db/per octave instead of 6 dB/per octave. Also, I discovered a bonus from this Radio Shack part which was using the second, smaller coil, I was able to make a second lowpass filter to use on the phone bands, with a cut-off frequency around 2 to 3 KHz.

After testing the results of the SSB filter, I was pleased that there was no more hiss and there was some peaking of the mid-range voice frequencies. Great and is this too good to be true? I used an oscilloscope to test this circuit and sure enough, there was a 1 to 2 dB grain at my CW side tone audio frequency. I took the time to peak the response of the CW filter by watching the wave form voltage levels on the 'scope, and added just the right amount of capacitance to get maximum peak at 785 Hz.

If you want to take the time to peak the CW filter, and you have a 'scope or an audio AC voltmeter, hook your speaker to the output of the filter and put the 'scope or meter across the speaker and watch the voltage rise as you keep adding capacitors till you have the maximum peak of about 785Hz. The dimensions of the unit are 5 inches by 2 ½ by 1 inches high. With a switch, you can wire the filter to go between the CW and SSB filter, and then say to Mr. Hiss...**Hasta-la-vista-BABY!**

While I was at Radio shack, I noticed that their external 5 watt CB speaker was on sale. I have noticed that with only one speaker, there is echoing in my shack from the wood floors and the walls. I like to listen to high speed CW and when using only one speaker, I have to be just the right distance away from the speaker and at the right angle or I don't copy very well. And, if I have to step away from the rig, or out of the room...forget it! I thought that if I had two speakers and separated them just enough that I might be able to copy better, I tired putting the speakers in parallel and in series to see if I could enhance my listening comfort. I found that in series and with opposite phasing to each speaker, it gave the best results and produced cancellation of the room echoing. I can even copy in the next room now! Isn't technology fun!

Chuck Vaugh - AAØHW
73



Charts & Graphs

Dennis Marandos - K1LGQ
NE-QRP #151

From last issue of 'Charts and Graphs' we discussed the Greek alphabet and how it effects our hobby, the UTC conversion so we could be somewhere on time, to the color code for resistors. Now, let's move on and add to our collection more useful information for us to tuck away so we won't forget where this data is when we need it. Right!

In working with your dipoles or yagi beams, certainly there will be a time to 'cut and dice' your wire and aluminum to radiate in all directions. English to metric is always fun, souUse the following chart to be precise.

English-Metric Conversion Table

English (inches)	Metric (centimeters)	English (feet)	Metric (centimeters) (meters)
1.0	2.5	1.0	30.5 cm
2.0	5.1	2.0	61.0 cm
3.0	7.6	3.0	91.5 cm
4.0	10.2	4.0	1.22 M
5.0	12.7	5.0	1.53 M
6.0	15.2	6.0	1.83 M
7.0	17.8	7.0	2.14 M
8.0	20.3	8.0	2.44 M
9.0	22.9	9.0	2.75 M
10.0	25.4	10.0	3.05 M
11.0	27.9	15.0	4.58 M
12.0	30.5	50.0	15.25 M

Fractions of an Inch	Centimeters
1/16	0.16
1/8	0.32
1/4	0.64
3/8	0.95
1/2	1.27

Example:
3' 11¼" =
91.5+27.9+0.64=
120.04 cm = 1.2 meters

Another item you probably knew but forgot was that not all resistors are uniform in their values. The following chart is COMMON 5% RESISTORS.

COMMON	FIVE PERCENT	RESISTORS
1.0	2.2	4.7
1.1	2.4	5.1
1.2	2.7	5.6
1.3	3.0	6.2
1.5	3.3	6.8
1.6	3.6	7.5
1.8	3.9	8.2
2.0	4.3	9.1

Now that you're familiar with 5 percent resistors, do you know the common values for resistors with one percent tolerance? Of course you'll pay more, but at least you'll know what's available and the values you can obtain.

COMMON	ONE PERCENT			RESISTORS	
1.00	1.47.	2.15	3.16	4.64	6.81
1.02	1.50	2.21	3.24	4.75	6.98
1.05	1.54	2.26	3.32	4.87	7.15
1.07	1.58	2.32	3.40	4.99	7.32
1.10	1.63	2.37	3.48	4.11	7.50
1.13	1.65	2.43	3.57	5.23	7.68
1.15	1.69	2.49	3.65	5.36	7.87
1.18	1.74	2.55	3.74	5.49	8.06
1.21	1.78	2.61	3.83	5.62	8.25
1.24	1.82	2.67	3.92	5.76	8.45
1.27	1.87	2.74	4.02	5.90	8.66
1.30	1.91	2.80	4.12	6.04	8.87
1.33	1.96	2.87	4.22	6.19	9.09
1.37	2.00	2.94	4.32	6.34	9.31
1.40	2.05	3.01	4.42	6.49	9.53
1.43	2.10	3.09	4.53	6.65	9.75

For those who are collecting and sorting resistors the way I used to do it 35 years ago, the following lists are the most common values manufactured in today's market. Use this list to set up your collection tray. The values in BOLD are 10 percent, while the remaining values are 5 percent...a gold band.

Standard		Resistor	Values		Listed	
1.0	11.0	**120**	1300	**15.0k**	160k	**1.8m**
1.1	**12**	130	**1500**	16.0k	**180k**	2.0m
1.2	13	**150**	1600	**18.0k**	200k	**2.2m**
1.3	**15**	160	**1800**	20.0k	**220k**	2.4m
1.5	16	**180**	2000	**22.0k**	240k	**2.7m**
1.6	**18**	200	**2200**	24k	**270k**	3.0m
1.8	20	**220**	2400	**27k**	300k	**3.3m**
2.0	**22**	240	**2700**	30k	**330k**	3.6m
2.2	24	**270**	3000	**33k**	360k	**3.9m**
2.4	**27**	300	**3.3k**	36k	**390k**	4.3m
2.7	30	**330**	3.6k	**39k**	430k	**4.7m**
3.0	**33**	360	**3.9k**	43k	**470k**	5.1m
3.3	36	**390**	4.3k	**47k**	510k	**5.6m**
3.6	**39**	430	**4.7k**	51k	**560k**	6.2m
3.9	43	**470**	5.1k	**56k**	620k	**6.8m**
4.3	**47**	510	**5.6k**	62k	**680k**	7.5m
4.7	51	**560**	6.2k	**68k**	750k	**8.2m**
5.1	**56**	620	**6.8k**	75k	**820k**	9.1m
5.6	62	**680**	7.5k	**82k**	910k	**10.0m**
6.2	**68**	750	**8.2k**	91k	**1.0m**	11.0m
6.8	75	**820**	9.1k	**100k**	1.1m	**12.0m**
7.5	**82**	910	**10.0k**	110k	**1.2m**	13.0m
8.2	91	**1000**	11.0k	**120k**	1.3m	**15.0m**
9.1	**100**	1100	**12.0k**	130k	**1.5m**	16.0m
10.0	110	**1200**	13.0k	**150k**	1.6m	**18.0m**
						20.0m
						22.0m

That's it for now. Clip and save your charts and graphs. See you next issue. 73

W1FMR 3-Alpha New England QRP Field Day - 1994

The QRP-NE gang is operating the W1FMR ARRL Field Day contest as class 3A, battery, and each station will be, of course, five watts or less. The start-up will be at 10AM on Saturday and operate till 2PM on Sunday. The site is the Princeton, MA Lighting Department Wind Farm on the west slope of Mt. Wachusett.

The following have volunteered to be band captains and are responsible for all aspects of the operation on the given band, arranging for equipment, shelter, antennas and scheduling operators at the work site.

80 meters	Greg Algieri- WA1JXR
40/15 meters	Bruce Walker - WT1M
20 meters	Jim Fitton - W1FMR
VHF	Mark Swartwout - NX1K

For your own comfort, be sure to bring *bug repellent*, sun screen, a hat, long pants, hiking shoes, *insect repellent*, a jacket, a flashlight or lantern, batteries and *mosquito repellent*. If you have extra cable, rope, connectors, batteries, an extra rig, *bug repellent*, etc. they can probably be used. Throw them into your car anyway!

Everyone should bring their own sleeping bag and it will help if you can bring a lawn chair to sit on. Also, if everyone can bring a cooler with water or *tonic*, it will really help, especially if the weather is hot, as it has been in the past few weeks here in New England.

Each member should bring their own food for meals or snacks. There will be a trash bag for leftovers, and many others will bring small cooking stoves if you want your food hot. There is a pizza restaurant near by if a pepperoni attack sets in. Breakfast will be Sunday morning for all, which will probably be pancakes and appropriate extras. The usual hat will be passed for donations for this exquisite gourmet meal.

The Princeton, MA Lighting Department Wind Farm site was used the last two years and found it to be excellent. There has always been a clear shot to the South and West from 1,500 feet above sea level to get those hard to reach high scores. It will be a weekend of fun and laughs, and serious contesting. Look for us using Jim's call, W1FMR, and we'll rag-chew after the competition has ended. See you on the air.

See you at Field Day

Looking To Buy

ARGONAUT 515
Don Zakel
Route #2, Box 237
Raymond, WA 98577
Tel.: 206/942-3705

72 Looking For Contest Editor

If you would like to keep track of all the QRP contests throughout the year and to tally scores, and you have the time to develop a column for 72 we would like to hear from you. Send you name, call and address to Jim Fitton - W1FMR, P.O. BOX 2226, Salem, NH 03079. You must be able to meet deadlines and keep track of dates and times using MS-DOS.

ERRORS

Did we make a mistake on your name, or call or your address? Let us know so we can FIX it now. If your address is wrong, send the correction to Paul Kranz - W1CFI, Treasurer, whose address is in the beginning of this newsletter. If you have club matters and business which need special attention, send your supplication to Jim Fitton - W1FMR, President, whose address is also in the front of this newsletter. Direct questions concerning the Forty-40 should be sent to Dave Benson - NN1G, and missing parts from the first 100 units of the #2 New England project sent should be addressed to Jack Frake - NG1G. In addition, if you would like to have your comments edited in this newsletter for the forthcoming issues, send them to Dennis Marandos - K1LGQ, Editor of 72.

Subject: NE Forty-40 Kit Review

Doug Hendricks KI6DS NE #182
Editor *QRPp* NorCal QRP Club

I just finished the NE QRP Club Project #2, the 30-40 rig. It stands for 30 meters for forty dollars. My opinion? The NE Club has a winner. I will let you in on a secret, the rig is going to sell out fast. They did a run of 50, and it sold out so fast, it made their heads swim. So, they did another run of 50. Remember the NorCal 40 and how you missed out on it? This is the same song, second verse. I am so impressed that I just ordered another kit for 40 meters. I want to compare it to the NorCal 40 and my other 40 meter rigs, besides, I like to build. The kit sells for 40 dollars, but you need to add $1.95 shipping and handling. Send your orders to:

Dave Benson - NN1G
80 E. Robbins Avenue
Newington, CT 06111

(Note: be sure to specify the band, 30 or 40 meters)
Here is what you get:

*VFO tuned Superhet- 40 KHz coverage-low cost varicap
*1.5 Watts output
*Full break-in (QSK)
*(RIT is a promised add-on mod)
*Drilled & tinned PC board
*All on-board parts and wire
*Matched filter crystals
*Detailed layout drawings
*Assembly instructions
*Available on 30 or 40 meters

You supply:
*Connectors and controls *enclosure
*hook up wire *labor

My kit came yesterday. Oh my god, just what I need, a kit right as I am getting ready for Dayton. Hmm, I do have this evening, I think I'll just inventory the parts. As soon as I opened the package, the first thing that I saw was this GREAT instruction manual. I thought Wayne Burdick had moved to New England again. This manual is as good as the NorCal 40 manual, and I consider that one to be the best that I have ever seen with a kit. Clear instructions, examples on how to wind a toroid, and parts identification.

I read it from cover to cover, and there are 19 pages. It includes the following:

* General information on what you should know about building a kit.
* How to wind toroids.
* Materials list, instructions on how to "unpack" the kit.
* Parts list, including very detailed identification of parts.
* Theory of Operation (2 pages)
* Schematic
* Parts Layout
* Building Instructions
* Recommended Assembly Sequence
* Wiring the controls and connectors
* Suggested layout for enclosure
* Alignment
* Troubleshooting
* NE Club members offering technical support
* Troubleshooting schematic with voltages

The rig was designed by Dave Benson - NN1G, who has done an outstanding job. My impression of the kit is excellent. I give it 3 stars, with only a few minor problems. Here they are:

1. Parts were missing from the kit. 1 diode, 9 capacitors, and 3 trim caps. But, you have to remember that this is a club kit that uses volunteer labor. It is a great deal for the price, and the club will happily send you the missing parts as soon as you let them know. People make mistakes, and none of them are intentional. If you are missing parts, just let them know, but be kind. They are volunteers helping you out.
2. The PC board is not silk screened. I think it should be. They have a great parts layout picture. Should have used it for a silk screen on the boards.
3. There are a couple of mistakes on the parts pictorial. Diode 2 is called diode 1, and they left off two .01µF bypass caps. One goes between C26 and a 100 ohm resistor, and 1 goes between pin 1 of U3 and a 470 ohm resistor. The holes are drilled, the parts are listed on the schematic, but they just didn't get on the parts layout.

Other than the above, I think the kit is great. The manual is the best part, really well done. It worked right off the bat for me, and that is the real test. If I can build it, you can. I ought to charge NorCal and NE QRP clubs a testing fee (Joke). I am the original build it and it won't work guy. Yet, this one worked in spite of me. Great job Dave Benson and the NE QRP club. Take my advice and order one today. Place your order, I highly recommend it. Great fun!

Disclaimer: I am a member (#182) of NE QRP club, but I live in California and am not an active local member. No one requested this review and it was done for informational purposes only. It is my opinion and my opinion alone. I do not have any financial interest in NE QRP Club or the kit described.

72' and 73' Doug Hendricks - KI6DS NE #182

TO ALL QRP NEWSLETTER CLUBS AND EDITORS

To the Editors of QRP Newsletters:

Lately, I have found myself deeply enjoying our hobby in the QRP mode of operation and as a result, I belong to several QRP clubs across the country, (and, of course, G-QRP). As a result of membership to these clubs, I receive several newsletters, and most of these newsletters/journals are involved with QRP and/or building, published either quarterly or 6 times a year. As a result, I receive several different newsletters in a given month and none at all in some months.

Since I thoroughly enjoy reading each club's newsletter several times, I propose a time schedule for publishing as follows.

Newsletters who publish 6 times in a year:

Clubs located in call districts Ø, 1, 2, 3, 4, Virgin Islands and Puerto Rico produce their newsletters in the odd months of the year, *i.e.* January, March, May, July, September and November.

Clubs located in call districts 5, 6, 7, 8, 9, Alaska and Hawaii publish in the even months of the year, *i.e.* February, April, June, August, October and December.

Newsletters who publish quarterly can follow a similar publishing pattern:

Clubs located in call districts Ø, 1, 2, 3, 4, Virgin Island and Puerto Rico publish on any of the odd months, *i.e.* January, April, July, and October.

Clubs located in call districts 5, 6, 7, 8, 9, Alaska and Hawaii publish in any of the even months, *i.e.* February, May, August, and November.

This is just my way of trying to get the full appreciation of each newsletter that so many QRP/building enthusiasts take time out to produce for the Amateur Radio community.

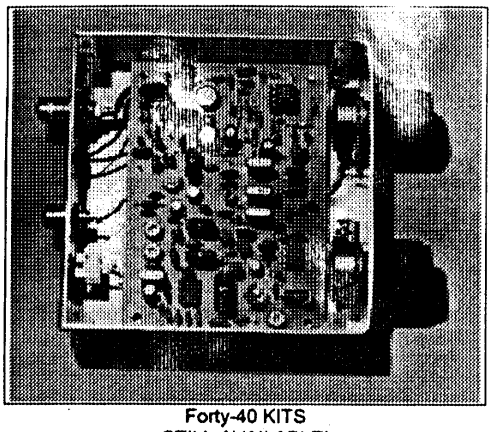
72' and 73' Frank Lauri - KD2IX - NE#146
Carmel, NY

Frank---Your idea is something I would like to see implemented by those who are contributing to the QRP info-highway. As usual, the constraints for producing a newsletter is dependent upon logistics seldom thought of as a reader. First, the deadline is never met by those who can't understand what the word NOW means, the printer is always asking..."You want it done when?", and then proceeds to double up from laughter, the committee who volunteered to help meet the deadlines have evaporated which leaves the entire newsletter in the hands of one or two people. I, for one, rely on my own energy for I can never assume it will be done any other way. Once a precedent has been set, it is easy to duplicate it there on, but to get to that point means a lot of pushing and shoving to attain victory, which sometimes is pyrrhic.

Speaking of newsletters, it is sometimes frustrating to see the same news article printed several times in as many club bulletins with little or no editing at all. A great deal of information is being handled on INTERNET and for those who have opted to read the QRP note files first hand, will usually see a story written in that media before it would be in the local club newsletter. What I propose is for long-winded gabbers to stop writing epistles on InterNet and to write to their local club newsletter, or any other publication they feel will give them the exposure they need, and support the white space their club has to offer. Every QRP'er has a local club they call their's which should be supported with dues which inturn supports the newsletter, and it is the local club who should print their features.

In addition to each club and their newsletter, each club has a guru technical editor, membership editor, club project editor and the list goes on. In speaking with others, I have asked if they receive mail, calls or information from members to fill the space for their newsletter and the answer is always the same---NO. The QRP clubs you and I subscribe to have a powerhouse of information, brain power and resource capability to dispense but is seldom accessed. One problem may be the ease in rifling our questions through InterNet, or any other electronic media, for immediate response. I feel the first avenue should be the local club newsletter, but Frank, as we know, and as you have pointed out, the scheduling for information is seldom one which can be counted on. The answer may come next week or next month, but without a schedule to follow, it will be helter-skelter when you get it. I hope we have jogged a few clubs into thinking newsletters first and electronic media as a follow-up. ----

(Editor - Dennis Marandos K1LGQ NE#151.) 72



Forty-40 KITS
STILL AVAILABLE!

NEW England QRP has sold one hundred Forty-40 and Thirty-40, 40 meter and 30 meter transceiver kits. The 'QRP-NE Kit Squad' did a fine job but now are tired and are disbanding.

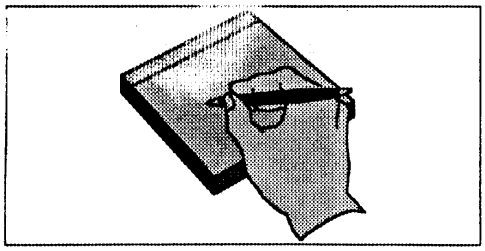
However, another Kit Squad may be formed at a later date, to do more kits. But, because the Forty-40 kits are extremely popular, Dave Benson - NN1G will begin selling them on a personal basis.

A magnanimous thanks to the NEW ENGLAND QRP Kit Squad! QRP-NE is now solvent enough to attempt other great projects. Kits are still available from Dave Benson, and to order a 'Forty-40' kit, state either 30 meters or 40 meters, send $40 plus $1.95 for shipping and make your check out to:

Dave Benson - NN1G
80 E. Robbins Ave.
Newington, CT 06111

In the next issue of *Z2*, Dave will offer his latest addition of RIT to the Forty-40 which will add operating ease to this already popular kit. Also, the add-on will make building this package a lot more interesting, and, in time, perhaps a great deal can be added to this unique circuit to rival the big guns.

Z2



NorCal 40 Partial Kit

The Northern California (NorCal) QRP Club is selling partial kits for the NorCal 40 CW transceiver. The rig was first offered as a complete kit, but now the club has moved on to other projects. Several hams have contacted the NorCal club and requested the hard to get parts for the NorCal 40. NorCal has decided to offer the NorCal 40 partial kit, which includes the silkscreened PC board, custom case with drilled front and rear panels, standoffs, special screws, MVAM 108 varactor diode and a 27 page instruction manual. The manual gives a complete parts list with sources for all parts. The rig is very easy to build and, in fact, several first time kit builders have been successful with getting their kits to work the first time. How much does it cost? $25.00 delivered in the United States other than California, $26.94 delivered in California (sales tax), and $30 delivered to foreign countries. To order, send your money to:

Jim Cates - WA6GER
3241 Eastwood Road
Sacramento, CA 95821

Be sure to have your name and full address plus the correct amount on the check. Make all checks out to JIM CATES, and please...US funds only.

QRP A-Field—1994

Elsewhere is this issue of *Z2* you will find the rules and scoring sheet for the up-coming contest QRP A-Field, managed by Chet Bowles - AA1EX. Chet has worked out a lot of the details and especially wants to make sure you don't forget to mark your calendars for this event. The day is set for SATURDAY September 17, from 12 noon (16:00Z) to 4 (20:00Z) in the afternoon Eastern time. Ten certificates will be awarded for the highest points total. Do you think you can be a winner in the *QRP A-Field contest*?

NEW ENGLAND Q R P

Membership

To apply for membership into the New England QRP Club, send $10 for first time members to Jack Frake - NG1G, P.O. Box 1153, Barnard, Vermont. If you would like to renew your membership, send $7 to Paul Kranz - W1CFI, NE-QRP Treasurer, 26 Mettacomett Path, Harvard, Massachusetts 01451.

Dayton was great this year, and despite the rain, many QRP'ers said it was the best gathering ever. Having gone for nine years straight, I wholeheartedly agree. QRP PEOPLE ARE BEAUTIFUL!

Myron-N8DHT is a master at negotiating and provided us with fifty-three rooms full of kindred spirits and a hospitality suite to play in. One hundred thirty-five QRP'ers signed the hospitality suite roster and fifty are on Internet. The roster looks like a "Who's Who" of QRP.

ARCI provided a MFJ-9020 door prize at the QRP banquet on Saturday evening. Other prizes were: Colorburst kit from QRP-NE, "History of QRP" from Ade, WØRSP, a partial NorCal40 kit from NorCal QRP, and a G-QRP club membership from G3RJV.

Chuck, K5FO sponsored the trophy for the "QRP-A-Field" 4 hour QRP field operating event by NEW ENGLAND QRP on Saturday, September 17, 1994. THANKS CHUCK!

Congratulations to Doug-KI6DS who became a member of QRP-ARCI board of directors. Interesting to see so many leaders of smaller clubs volunteer to help run ARCI. A leader is a leader etc....

Doug and Chuck suggested that ARCI do a Homebrew project. Not so much to make money as to get members participating in an enjoyable part of the hobby. ARCI, under the new president, Les-WN2V, agreed that a joint project would help generate progressive movement for the club.

Following the tradition of the NorCal 40 club project, the new SIERRA looks terrific. All bands in a small package looks like the wave of the future. An SASE to KI6DS will bring particulars on this dynamite all band CW rig club kit.

I bought the ELNAC program from Roy, W7EL and hope to model a killer antenna for NEW ENGLAND QRP to use on field day this June, and QRP Afield in September.

The NW QRP club offered another field day challenge to QRP clubs. NorCal forfeited the prize last year when they admitted having too much club participation. In this years challenge, submit the number of contacts made on 3 transmitting stations, using wire antennas to qualify.

It rained a little too much for outdoor work so there were not too many antennas outside of the hospitality suite. Outside the hospitality suite stands a few low bushes and a half acre of green lawn. I miss that eleventh floor full-wave loop at the old Belton Hotel.

Rick Littlefield-K1BQT brought a new window fan antenna from MFJ to try at the hospitality suite, but the SWR indicator unit looked like it was dropped and did not work correctly. Too bad, as many stations were heard on receive, when the unit was peaked.

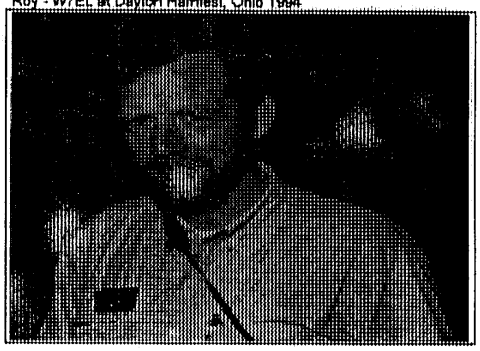
Doug-KI6DS showed a beautiful NorCal logo patch which each member of NorCal will soon receive.... What a guy! What a club! They went over the 500 member mark at Dayton and they are just 1 year old!

Meeting some of these fantastic, creative people at Dayton excites the gray matter in a way that has to be experienced. Ideas that you could never imagine, come from the best of the best people. Save your money and go to Dayton in 95'. The excitement is building! Next year is the tenth anniversary of the QRP-ARCI at Dayton and promises to be very special.

Just before leaving, Chuck-K5FO and I watched the prize drawings and I won a STANDARD 2 meter handheld. Last year, I won a dual-band handheld but have used it only three or four times (no CW).

Jim Fitton - W1FMR NE#01

Roy - W7EL at Dayton Hamfest, Ohio 1994



DAYTON - 1994

REFLECTIONS

All pictures taken by Richard Cosma - KD1BF from Framingham, MA. Good job Rich.

Chuck - K9FO, Jim Fitton - W1FMR President of NE QRP Club, Les - WN2V President of QRP International, Buck N8CQA.

Ernie Hector - W8MVN with his compact briefcase.

Randy Rand - AA2V speaking on Auruba Dxing

George Dobbs - G3RJV

Pat - WS8T in front of G-QRP Club Kanga booth

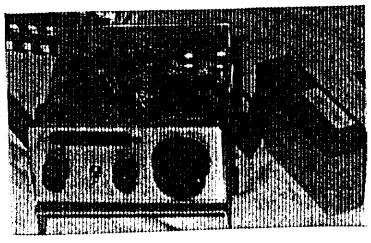
Paula Franke - WB9TBU speaking on Virgin Island Dxpedition.

NE-QRP Club

72

Newsletters

Presentation by Cam - N6GA to Jim - W1FMR for John Collins KN1H for first place ONE & TWO Person catagory Milliwatt.



NorCal Transceiver