

June 1995

72

THE NEW ENGLAND QRP NEWSLETTERS



NE-QRP Club
P.O. Box 2226
Salem, NH 03079



TO:

9ENE001

Jim Fittan, W1FMR
P. O. Box 2226
Salem, NH 03079

72 ☺ THE OFFICIAL NEW ENGLAND
QRP NEWSLETTER

Write For 'Your' NEWSLETTER

The goal of **72** is to make it easy for you to submit your ideas and suggestions for all to read. Send your materials, hand written or typed or MS-DOS to **72**. Use the Internet to send materials to your editor or floppy diskettes, MS-DOS Windows gladly accepted. Real technical articles may be sent to John Collins, KN1H, **72** Technical Editor, at the address below.

THE DEADLINE FOR THE NEXT ISSUE OF **72** WILL BE SEPTEMBER 9, 1995

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In This Issue



Page 2	The 72 Team - September 9 dead line
Page 3	Report from NE#01 - Jim Fitton W1FMR
Page 4	New England ARRL Convention July '95
Page 5	Editor's Time - Dennis Marandos K1LGQ
Page 6	Greetings From Alaska-Jim Larsen AL7FS
Page 7	Colorado QRP Club Summer QSO Party
Page 8	Backpacking On 40M - M. Weaver KG8H
Page 9	Serendipity - Joe Everhart N2CX
Page 10	A Simple Success (For a change) N Franco - KF2PI-
Page 11	Dayton - Another Successful Hamfest
Page 12	Mt. Hale and 30 Meters QRP - K1LGQ
Page 14	30 meters is Shared / QRP Forum in Alabama
Page 15	QRP AFIELD - 1995 Rules and Updates
Page 16	QRP AFIELD - 1995 Entry Form
Page 17	Just What Do You Need To Do? Chuck - K6FC
Page 19	CUT & PASTE - Dennis Marandos K1LGQ
Page 20	High-band Gain Mod for the XX-40-NN1G
Page 21	XX-40 Cabinet Holding Fixture -Joe N2CX
Page 22	NEW ENGLAND QRP CLUB NEW MEMBERS
Page 23	Apartment Antennas-Jay Coole WB6AAM
Page 24	Swin With Internet - Editor

Report from NE # 1



W1FMR - Jim Fitton
Salem, NH

Hello QRPers. The months have flown by and another column is here already. Fun things are happening in this low power hobby, and if you are not having any, you may do well to ask yourself why? Surprise everyone, and perhaps yourself, by daring to be adventurous. For instance, Robert Moeller, KA1PXF is making up New England QRP patches for the membership. **He took charge!** Al Bates, W1XH decided to help distribute 72. **He took charge.** Ted, K8FEE said he would run the next Colorburst Sprint. **He took charge.** Joe Everhart, N2CX always contributes with articles and projects. Dave Benson, NN1G is very busy and finds time to answer letters and write articles. Bill McNally, AE1D took charge of the membership chairman's job. Even distant pro's such as Fred Bonavita, W5QJM takes charge and either writes or clips interesting articles from other newsletters and sends them to 72. Write an article about something you built, did, or even ruined. Tell folks about YOU (you might learn something about yourself). QRPers love reading about kindred spirits. *Fanatics especially need verification that others are of like mind.* Create a project and then take charge. The club probably will support you because it is filled with other wonderful, free flowing people having fun and making things happen. Flip through the pages of this 72. Someone just like you did what you see. Not only that, but they may be on their way to becoming famous in the QRP world. It doesn't take much. Only persistence. What a

club! Can you believe all the folks who are on the New England QRP team and what they are doing ? THANK YOU one and all !

A letter from Bill Wawrzeniak, W1KKF informs us that it was not W1FD and others that won QRP Afield last September, but the Meridan, CT Amateur Radio Club. W1FD was however one of the participants and his call was used because he had a New England QRP number. The club station now has a New England QRP number NE-300. The slip was not intentional, Bill. You would think that with my failing memory, procrastination, missed deadlines, misinformation and gross errors, I would embarrass myself into quitting, but it doesn't, and I'm not. However, offers from principals would be seriously considered. Otherwise I'm going to ask for a substantial salary raise because all the club can say is - no. Nothing form nothing...hmmmmmm.

A young man who works for Bell Labs recently told me that he loves his job so much, that if he ever comes to work, it bothers him so much that he punishes himself by leaving early.

I have a list of QRP clubs fished from the Internet. Can you believe there are now 27 QRP clubs listed! Wow! I missed Rochester, NH flea market again this year, and I had stuff to sell, too. I can't wait until next fall, October 7 for the next Rochester get together. This year the weather was damp and I had a sinus infection. Maybe I did inhale after all. But I didn't know it!

Coming events...Dave Benson - NN1G, Dennis Marandos - K1LGQ, Rick Littlefield - K1BQT and other famous QRP folks will be speaking at the QRP forum at the ARRL convention in Manchester, NH at the end of July. Everything is inside and air conditioned, and it is quite nice. This is an event you won't want to miss, so mark your calendars, get your tickets and get a front row seat.

New England QRP Field Day will again be held at the Windmill Farm, with Mark Swartwout - NX1K leading the efforts. Sign up and bring along your home brew gear. Many New England QRP notables will be there. A secondary activity at the Windmill Farm will be to set up a random wire antenna along with counterpoise, and antenna tuners will be compared. Efficiency can be compared using a field strength meter. See how your favorite tuner stands up against some champion homebrew types and portable mini tuners.

The NorCal QRP To The Field contest was held in April, and judging from the comments, it was a

wonderful contest. I could not operate in the field but listened at home for the last half hour.

Harry McDade, W1LMU is still holding the QRP net on Monday evenings on 75 meters SSB. Nine p.m. on 3.855 MHz. Paul Kranz, W1CFI and Greg Algieri, WA1JXR are holding the GLN net on Wednesday evenings at 9 p.m. on 3.560 MHz. Let's get together. I will put my PIXIE II on GLN with a crystal bought at the hospitality suite at Dayton. Call me if you hear me, but don't zero beat, because I won't be able to hear you if you zero exactly on my signal. Maybe we can turn GLN into GLNE.

Let's hold monthly meetings in Boxboro, MA starting in September. Fifty percent of our membership are from MA and twenty-five percent are from miscellaneous, and 25% from the remaining New England states. Maybe we should try meeting in Miscellaneous.

This wraps it up and many thanks to the New England QRP staff members who have given amazing, unselfish service. Don't forget an SASE if you expect an answer. Start now on the road to QRP fame, write, do, enjoy. Expect the best and respect the rest. The excitement is building.

Jim Fitton - W1FMR



Did you know there is going to be a Hamfest in Connecticut this fall...?

The Third annual Nutmeg Hamfest will be held in Durham, CT October 8, from 9-3 PM. There will be a table for QRP to demonstrate equipment and operating procedures. If you would like to be a part of this gala event, contact Don Mitchell - KE1AY in Connecticut at 203/239-2077. It is not too early to let Don know that you would like to be a part of this event. Don't wait till it's too late. Call him now.



SEE YOU AT THE NEW ENGLAND ARRL CONVENTION

**New England ARRL Convention
Slated for July 29 and 30
Manchester, NH**

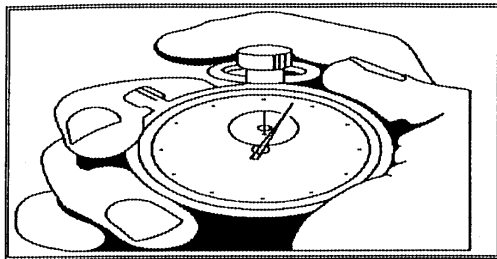
On Friday, July 28, at the ARRL convention in Manchester, NH there will be two ARRL sponsored seminars. One is an education forum and the other is a satellite/AMSAT forum. Because these require a pre-registration, it is advised that you get in contact with Rosalie White at the ARRL Headquarters. The phone number is 203/666-1541.

The flea market is always a crowd pleaser and will be on Saturday. The commercial vendors will also display their state-of-the-art products starting at 8 a.m. The Saturday forums will begin at 9 a.m., so make plans to take it all in and adjust your schedule.

On Sunday, the flea market and vendor displays open at 9:00 a.m. and the forums start at 10:00 a.m. This will be the last time to renew old acquaintances before the convention closes later that day. If you plan on meeting a lot of your friends, make it a point to set up a rendezvous point and go from there.

There will be a QRP forum as well as a presentation by Jim Fitton - W1FMR, Dave Benson - NN1G and Dennis Marandos - K1LGQ. The QRP forum will be on Saturday, and there will be more details as the ARRL convention becomes a reality.

The advance tickets cost \$7.00 and tickets at the door are \$8.00.



Editor's Time

Dennis Marandos - K1LGQ

A great deal is happening with the New England QRP club and slowly the pieces are joining together. Next month is the ARRL New England convention in Manchester, NH on July 29 and 30. Featured speakers will be Dave Benson - NN1G, famed designer of the XX-40 series, along with Jim Fitton - W1FMR coordinator and multi-tasking pilot for QRP-NE, plus your Editor for the 72 newsletter, Dennis Marandos - K1LGQ. There will be discussions during the QRP forum and it promises to be a top-notch presentation. Anyone who is any one will be there so look for your friends and hand out a few of your QSLs to celebrate your excitement for QRP and all it represents.

We have such a great and diverse team of club helpers that there is talk of a club patch which can be worn on your jacket, hat or just pinned to your shack wall as a souvenir of the New England QRP club. The idea is still in the making so wait for further notions as they're being prepared right now.

The club's due schedule has been changed to align itself with the newsletter which means that next year's dues for 1996 can be mailed to the treasurer between September 1995 through December 1995. After December 1995, the January 1996 issue will be mailed to those members who are current at that time. Perhaps you might want to sign up several years in advance to avoid having to think about this so often.

Another enormous idea forth coming is the September 16 contest QRP AFIELD. The contest will be on a Saturday and hopefully the weather should be reasonable and our minds are thinking another trip to the field for hamming. This is your chance to seriously take your HOMEBREW QRP rigs outside and give them a work out. This is the time where you can mount a dipole, random wire or an inverted-V anywhere you like and try for some earnest contesting. If you have a QRP rig on the shelf and you're wondering if it has what it takes for another

year...this is your contest. Go for it and be a part of the fun the warmer months are here for. Get into your Land Rover, your Chevy, your Mercedes, your bicycle and string that antenna up where it will be heard around the world. Take part in the QRP AFIELD day activity waited for by so many throughout the year. This year has to be better than last year and last year was sensational. Tell your (x)YL that this is one day she will have to either help or hide, but QRP AFIELD calls. And this is where we QRP men flex our muscles to see just who has the propagation and who has the fortitude to go into this contest with gusto and fight the forces of QRM and QSB unprecedented by any other contest encompassing our operating stations. This is the contest where a few parts soldered together can make ham radio the best hobby throughout the world; this is a contest where your only enemy is time because there is so little to have in such a noteworthy event; this is a contest which will rival all others for ease of comfort, congeniality, conformity and sheer happiness. Yes, I can read the headlines after the contest now, QRP AFIELD A NATIONAL HAPPENING! Chet Bowles-AA1EX, is still in charge of this auspicious challenging event and if you wish to be near the efficacy of effort, write to:

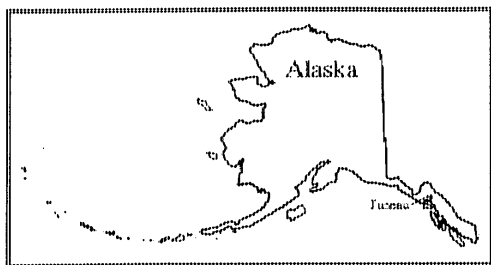
Chester (Chet) Bowles - AA1EX
RFD #2, Box 335L
Sharon, NH 03458

Chet will be happy to entertain any questions you may have, and you can also see the rules and regulations for this engagement elsewhere in 72.

Switching onto another subject is the question of 30 meters. That is, the activity is picking up and this band is HOT! I don't know if you have noticed it, but a large number of QRPers are heading to this band for nothing else but sheer excitement. At just about anytime of the day, well almost, you can strike up a QSO. As one person said, he plays spider on this band for it is here you can monitor a frequency and as a spider, jump out and answer him. It's a band where you're restricted to a maximum of only 200 watts out, but the majority use one hundred watts or less. The battle for the lower half is usually CW and the upper half digitized signals. I hope you have the energy to try this band and don't use high power...use your QRP! We will be waiting to hear from you on 10.115 MHz. Give a call!

Lastly, as an incentive to our QRP Club net on 80 meters, New England QRP club will offer an 80-40 kit for the member with the most QNT's made from August '95 through May '96. Can you take the pressure? Stay tune and see just who will be the winner.

See you next issue - 72/73
Dennis Marandos - K1LGQ
k1lgq@dennis.mv.com



June 13, 1995 GREETINGS FROM ALASKA!

Jim Larsen - AL7FS
Anchorage, Alaska

I've been a ham operator since I was 16 back in Iowa as WNØLPK (1965) and WAØLPK. I have lived and operated from Atlantic, Ames and Iowa City, IA, Biloxi, MS, San Antonio, TX, Dallas, TX, Chelmsford, MA (WA1WFX - secondary call), Anchorage, AK, Shrewsbury, PA and back to Anchorage in January 1984. I have been here since January 1978 except for 20 months in PA.

I was active from Anchorage on 2 meter EME (earth-moon-earth) from 1978 to late 1981 and finished up 2 meter WAS #36 as WAØLPK/KL7. Six meters with my long boom 6 element yagi was a blast from up here and a lot of New England stations made it through to me. I had to ask the 2's and 3's to please stand by as I knew that propagation to I-land was pretty tough to come by. I missed my WAS on 6 meters by one state, Florida, and this was all with 10 watts.

Interestingly, I ran EME QRP, never really running over 600 watts. If you were active on EME in those days, you realize why that was QRP. I spent many, many hours listening to galactic noise. The 6 meter stint was near QRP at 10 watts.

It has only been recently that I have been allowing myself time to operate QRP even though I have been very interested in low power modes for years. I was an original subscriber to Ade Weiss's *QRPP Milliwatt* Magazine and was a subscriber from the beginning to the end. Today, I subscribe to QRP ARCI, Mich. QRP, NW QRP, NorCal QRP and now NE QRP (check in the mail on June 13th).

I am a true homebrew "wanna-be." My Two'fer TX-RX is boarded up but not in a chassis and it's working. A 40 meter mW transmitter never really transmitted. A friend gave me a 20 meter NE-602 IC rig, but it was not in operating condition. I consoled myself by operating with Century 22's (2 each), Argosy analogs (2 each) (If one is good, two are better, right?), Triton IV, 505, and my trusty Kenwood TS-440 S which I am currently using since I lost my shack desk space and have to work out of a small corner of the TV room. I also acquired an MFJ-9020 CW rig from the QRP-L Mail Reflector listings. I am still waiting for my QRP+, and it should arrive soon.

The antennas are tough for me, and I am currently using a G5RV at 38 feet broadside to the East. I am planning to make my first antenna improvement to replace the G5RV with a 40 meter dipole and a 30 meter dipole. The following step will be to try for a delta loop on 40 meters (maybe a 30 meter loop inside, later). Once the delta loop is working, I may try to replace the dipole on 40 meters with a half square. The delta loop and the half square should make a radical difference on take-off angles. It's a long way to New England or Florida.

Station operation is tough considering the sunspot cycle, and sometimes 20 meters doesn't open up for days. High latitude is a whole new ball game (I'm above 61 degrees north) from propagation in the southern climes. Propagation does not work the same as it does down there. Even though it can be midday with sun up high, there can be zero stations on 20 meters. And, at midday, there are also no signals on 40 or 80 meters. Sometimes a VE7 or a W7 squeaks through on 30 meters, but that is all. What this all means is I am just as happy to work a "Lower 48" station or a station from "Outside," as we say here in Alaska. (Some old timers, even today, refer to the lower 48 as "the states.")

Right now, on June 13th, sunset is 11:40 p.m. and sunrise is before 4:30 a.m. It is interesting to note that my signal must skip from daylight into night to find its way to "the states". I start hearing stations on 40 meters as early as 02:30Z, which is five hours before sunset. It really never gets dark up here all night and I am sure the propagation gods get confused.

What do the bands sound like up here? (I hear you all of talking about the QRM.)

At 05:55Z June 6th the following is a band scan listing: W7HOR CQ on 7.033 MHz, NX6H CQ on 7.044 MHz, a station on 7.038 MHz, one on 7.004

MHz and a very weak one on 7016 MHz. That is all! Here are some additional notes on listening from up north. Calls may or may not be accurate as some fists were faster on code than I am, and I only heard them once in many instances.

June 10, 1995 (Saturday)

UTC

40 METERS

03:03 7.040 KØRII in QSO with a K9
03:42 7.037 QSO N7WED N6?YZ
04:07 7.038 CQ de AB6PH - called -no answer
04:11 7.039 CQ KA6FUM - called - no answer
04:32 7.034 KC7GNY at 339
04:40 Local QRN got bad
05:30 7.038 CQ KB7RFE too fast for me.
05:32 7.041 CQ WB6IRN mike in LA - called no answer
05:35 7.039.3 I called CQ - no answer
05:38 7.038.8 CQ AA6ZC called - no answer
05:42 7.110 KE6EFD in QSO
05:42 7.116 CQ WØPPG - called - no answer
06:05 7.040.8 CQ OA4EI? called - no answer
06:09 7.040 I called CQ - no answer
06:16 CQ KH6JOI called - HE ANSWERED!

Thank you, Ray, wherever you are.

30 METERS

08:00 10.129-133 Lots of JA stations
08:09 10.132.5 CQ JH7BZR - called - no answer
08:12 10.132 CQ JA5COK - called - no answer

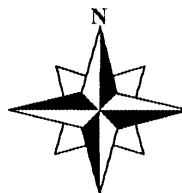


So, what does all this mean? 1.) I wish I had better antennas and I'm working on it. 2.) I am very excited when one of you work me. I have to listen a lot and call a lot, but when I work one of you in the lower 48—it is sweet.

72' & 73'

Jim Larsen - AL7FS
Anchorage, Alaska

jlarsen@alascam.com
AL7FS@KL7AA #nak.ak.usa.na



COLORADO QRP CLUB **SUMMER QSO PARTY**

Contest Information:

The Colorado QRP Club wishes to encourage QRP operations and amateur radio fellowship on the HF bands. The CQC holds a contest on the fourth Sunday of February from 22:00 UTC to 03:59 UTC on the following Monday and the forth Sunday in August from 18:00 UTC to 23:59 UTC. The contest includes both CW and SSB class operation. Ragchewing encouraged! Send your completed log, dupe (if over 200 QSO's), and name sheets within 30 days to:

Jim Pope - KGØPP
P.O. Box 31575
Aurora, CO 80041-0575

AUGUST - SUMMER CONTEST

DATE/TIME: AUGUST 27, 1995 18:00-23:59 UTC

EXCHANGE: RS(T) - STATE OR PROVINCE OR COUNTRY - FIRST NAME AND CQC # MEMBER NUMBER IF YOU HAVE ONE. OTHERWISE, POWER OUTPUT.

EXAMPLE: 579 CO JIM NR04

SUGGESTED FREQUENCIES (No WARC BANDS)

CW = 1.825, 3.560, 3.710, 7.110, 14.060, 21.060, 21.110.

28.060, 28.110 MHz

SSB = 1.910, 3.985, 7.285, 14.285, 21.385, 28.385 MHz.

CLASSES: SINGLE BAND, MULTI-BAND, NOVICE/TECH

QSO POINTS: CW-CQC MEMBERS 6 POINTS, NON-MEMBERS 4 POINTS.

SSB-CQC MEMBERS 3 POINTS, NON-MEMBERS 2 POINTS.

MULTIPLIER: STATES OR PROVINCES OR COUNTRIES WORKED.

THE SAME STATION MAY BE WORKED ON DIFFERENT BANDS FOR ADDITIONAL QSO POINTS AND MULTIPLIERS. CONTACTS ON THE SAME BAND USING A DIFFERENT MODE COUNTS FOR QSO POINTS, BUT NOT AS AN ADDITIONAL MULTIPLIER.

NAMES: TOTAL OF FIRST NAMES FROM NAME SHEET. ONE FIRST NAME PER LETTER OF THE ALPHABET. NAME MUST BE SAME AS CALLBOOK OR QSL CARD.

SCORE: TOTAL SCORE=QSO POINTS X MULTIPLIERS X NAMES. SUBMIT LOGS WITHIN 30 DAYS OF CONTEST.

POWER: STATIONS MUST USE 5 WATTS OR LESS OUTPUT ON CW OR SSB. THERE ARE NO POWER MULTIPLIERS.

AWARDS: TO BE DETERMINED - HIGHEST SCORE IN EACH CLASS. FOR SAMPLE LOG AND NAME SHEET, SEND SASE WITH STAMP TO JIM POPE - KGØPP.



Backpacking On 40 meters

Suggestions out of the ether[net]

Michael Weaver - KG8H, RN, Ph.D.

I recently was struck with the idea to put together a backpackable HF station. At first, I thought the idea was really just the result of my mowing the lawn under a typical Southern 95 degree, 95% humidity noon. After cooling down in the shade, I decided that, with summer camp just around the corner, it might be an interesting project, and could even generate amateur radio interest with the boys in my scout troop. Getting the idea was the easy part, but pulling it off was another detail.

I had been off the air for the past six years, because of a move from Ohio and all my gear was in storage while we looked for a house to buy. On top of that, I have only operated QRO, and was just now getting a station together to delve into the wondrous world of QRP. My New England Forty-40 is now a populated board of parts, just waiting for the finishing touches, among which is an antenna!

What would be the best antenna to pack along with the Forty-40? I knew I would have to compromise with antenna gain, weight, complexity, and accessories (such as a transmatch), and I had read several articles about different portable HF antenna designs. However, I wanted to hear a variety of experiences, so I could put together a backpackable station which I could live (and hike) with. Where could I find a group of QRP experts who have probably tried hauling a station along a trail on their backs? Of course—send a note to the nice people on the Internet QRP List (QRP-L@LEHIGH.EDU).

I received numerous replies, as is the norm for that knowledgeable, helpful bunch! I've put together a summary of the replies, and have tried to acknowledge

everyone who sent me a note, giving credit where credit is due. If I left anyone out, my apologies in advance; it was certainly not intentional!

The majority recommended using a dipole in the inverted-V configuration. Since only one band will be used, the antenna would be cut to length for minimum SWR ahead of time, and no tuner would be necessary. Small gauge insulated wire (#26 AWG or smaller), and a relatively short run (20-25 feet) of RG-174 or similar coax have proven to be an effective, light-weight combination. Since there always seems to be at least one tree somewhere close by here in Alabama, all I would need is some fishing line or twine to hold up the other end. Ed, N5EM, and Bob Smith said that this set-up will fit in a zip-lock storage bag—a good arrangement, since it always seems to rain when our troop heads on out! Ernie Gregoire - AA1IK indicated he is working on a backpackable extended Double Zepp, but is waiting to see how much the antenna, feed, and balun weighs before trying to pack it out! Nick, KF2PH, is another aficionado of portable dipoles and he uses spade lugs to break his 7.040 antenna for use on 14.050.

Limited height of the apex did not seem to be much of a problem. Derry - VE7QK, Andrew - AB5WB, Bob - KI0G, and Doug - KG8F all reported reasonable performance with the apex from 6 through 30 feet above ground. For times when there are no trees or other suitable center support, use telescoping fiberglass fishing poles (Goran, EA8YU), telescoping aluminum light bulb changing poles (Andrew, AB5WB), and aluminum hiking sticks (Ed, N5EM) were all suggested as center supports.

Other ideas, for when I felt adventurous or felt the need to tinker with my system, included: A full-wave delta loop, fed for vertical polarization (Ed, N5EM)—wouldn't need a tuner for single-band operation, carrying weight and difficulty to erect would be drawbacks. Folded dipoles made from 300 ohm twin lead (Jay, WB6AAM), (Claton, KA0GKC pointed me to the *ARRL Antenna Book*, portable antennas section, which describes such a dipole, and included a small capacitance to match the twinlead feed to 50 ohms. Hmmm, guess I'll have to pick up a copy! Also mentioned were long wires or random wires, which were described as easier to set up, but carried with them the need to pack a tuner and counterpoise. Jim, W1FMR, pointed out a small tuner, described on page 167 of *Solid State Design*, along with a tuning indicator (page 150), which he has used successfully. Bob, KI0G,

mentioned that he had not found long wires to work very well for him.

Vertical antennas also had their adherents. Ed - N5EM; Ernie Gregoire - AA1IK; Andrew, AB5WB - and Al - AB5ZB mentioned various ingenious portable vertical antenna configurations described by various authors in *QRP Quarterly* and *QST*. These basically used either helically wound elements or telescoping aluminum tubing which could double as a walking stick when mobile.

What am I going to use? I'm going to put together an inverted V, using 26 gauge insulated wire with RG-174 or RG-178 coax for a feed line. I'll only have a short run to the apex (not more than 20 feet), so loss shouldn't be a problem. I'm going to design a center insulator using a 35mm film plastic container taking the strain off the antenna wire and coax, and provide a means for attaching different antennas when I put together rigs for other bands (Or I just want to change my design!). I'm also going to take the advice of Ward, NØAX, to allow a drip loop in the coax before it gets into the tent and to the rig (Ward, I checked with some antenna gurus, and you were correct. A current balun would not divert the water running down the coax!), and Bob (KIØG), who suggested an amplified speaker to let the Scouts hear what I'm doing.

If you hear me on 40 meters in July, give a call! You'll be helping a Scoutmaster maintain his sanity during a week at camp, and you might just interest some new hams!

Michael T. Weaver KG8H, RN Ph.D.
Internet: nurs036@uabdp.dpo.uab.edu



Serendipity

Joe Everhart - N2CX
JEVERHART@cayman.vf.mmc.com
New Jersey

I've been in a QRP funk the last couple of days and all the messages with great success on 30 meters really whetted my appetite for working the world with my Thirty-40. HOWEVER, reality struck a cruel blow when I heard the W6's and the W5's and the W4's and the OK's and the UT's and all of the other great DX, but when I called them, nobody responded. I'm sure we all have times like this.

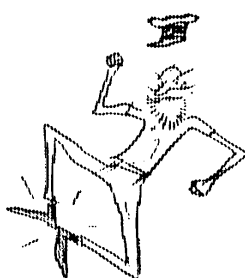
A check with my Autek RF-1 showed suspiciously wide bandwidths for my Butternut HF-6 vertical—this was *very* familiar. The last couple of times this happened, it was either corroded joints or loose ground connections. Naturally I checked those spots first and sure enough, everything was okay. I did notice a rambunctious forsythia (try saying that five times fast!) that was trying to take over the side yard and had numerous branches pushing against the vertical. I got out the old pruning shears and made quick work of it.

Then the other night I put the Thirty-40 on the air and decided that the headphone level was uncomfortably inadequate. I put together the \$9.95 Radio Shack audio amp kit someone on the net recommended. While wiring it up, I tuned around 30 meters. Then while it was still in pieces, a familiar call came through the air. It was K1LGQ, the esteemed editor of the New England QRP Club journal 72.

No time to dig out my keyer, so I clipped wires to make a hand key to the transceiver and called him just as he ended a QSO. Sure enough he sent "QRZ!"

Dennis and I had a great half hour rag-chew. He was 569/799 with QRO 30 watts, while he gave me a 559 for my 1 watt. We continued on with good copy until it was time for me to hit the sack. Wow, super, stupendous—I can finally make contacts! My funk is over, it all seems to work. Watch out DX, here I come! A million thanks to Dennis for restoring my normal cheerful outlook. I think that that's what the 30 meter propagation activity is all about.

72/73,
Joe Everhart - N2CX
Brooklawn, New Jersey



A SIMPLE SUCCESS

(FOR A CHANGE)

Nick Franco - KF2PH
NICKF@rcadmin.nov.add.bnl.gov

I am a new member of QRP-NE. I have obtained copies of *72* in the past from friends and have been intrigued by the projects and skills of the membership. I am not very electronically minded and knew I would never be able to be a part of this aspect of the hobby. I am also a Boy Scout leader and always take an HW-8 along to camp-outs and summer camp. I never thought of myself as a QRPer; I just loved making contacts on that little "camping radio" while out in the woods. A few years have passed since those beginnings, but I still take the HW-8 on all long camping trips. I even mounted it in the car and worked mobile QRP for a year.

I find myself on the Internet quite a bit because I'm in the computer field of technology. I stumbled across the QRP-L listserv e-mail group and subscribed. After reading mailings and stories for a while, I noticed these guys were really into home brewing (like those guys in the *72* Newsletter). However, now the ideas they discussed made sense and were not so mystical. I found myself reading with anticipation about all the kits and projects I could build if I would just dare.

I started making some 'moods' to my HW-8 (no big deal). Some worked and some didn't, but I wanted to learn why. What makes some of these things tick? I posted questions on the QRP-L group and received some interesting and friendly responses. I heard people referring to projects and moods from the QRP-NE group. I dug out the old *72*'s I had copies of and sent in my membership request. Now I am NE#349 (and you guys were thinking of limiting the membership to 300).

The QRP-L group is working on a propagation study during the summer months starting June 1, 1995

on 30 meters. I wanted to be a part of this, but I have no 30 meters kit or home brew gear, which is what this study is limited to. I contacted Dave Benson - NN1G and ordered a few kits for myself and some of my friends. There, now I can build a 30 meter transceiver and work the QRP-L summer test. One problem...I never built a kit before.

I read postings about the Dayton Hamvention. Dayton had a QRP hospitality suite where you could buy a PC board and instructions, then scavenge the parts at the flea market, and come back that night and build an 80 meter transceiver that operates on 3.579 MHz. The parts lists was small, and the design looked simple. You didn't even have to wind any cores. Wow, sounds like the perfect starting point for someone like me. BUT...I was not going to Dayton. oh well. A couple of weeks later, after Dayton, I read about the fun everyone had building the little Pixie2 transceiver. The schematic was posted on the Internet for the taking. I downloaded the post script file and printed out a simple and clear diagram. That's it. I'm hooked on this thing now.

After scavenging up the parts, I began to really look at the schematic. I thought even I could figure out something this simple. I'm getting there. At least I have the desire to learn. I picked up a little Radio Shack board and began stuffing the board. I made my own lands with bare wire soldered to the under side. It came out very neat, I was almost surprised (OK I was surprised). I double and triple checked everything, especially the places that are supposed to be going to ground, to make sure I tied them in. It looked Okay. I made the Pixie2 exactly like the schematic. I mean, the placement of the parts and all were exactly where they appear on the diagram (I told you I'm not very swift in electronics).

My hands almost shook as I snapped the 9v battery onto the connector. No smoke —that's a good sign, I think. Next, I listened on the earplug I wired into the audio output side. There was a slight hiss. Sounds good to me! I hooked up the antenna wire to the BNC connector and there was a very loud signal coming in. It works! I listened a little—it was WIAW sending some QST information. Nice but overpowering. Maybe I should put another crystal in it. I could never work anyone with that racket going on. Wait a minute, maybe I should see if the thing transmits first. Okay, I touched the key wires together and there was a click in the earphone and the receive muted. Not bad. I hooked up my MFJ tuner and

switched to the 30 watt setting. I couldn't tell how much power I was putting out but the needle moved a little. It really worked. Time to make some modifications. Oh no! I'm starting to sound like the guys whose articles I read, and this is my first working project! This stuff is addictive.

I figured, if I put a SPDT switch between two crystals then I have an alternative when WIAW starts up in the evening. Having been totally ripped off for the 3.579 MHz crystal at a local electronics supply store (\$5.00 each), I decided to look through some old computer boards and I came up with several 3.6864 MHz crystals. I made my first mod to my first home brew radio, cool. Next I brought the Pixie in to work and asked someone to look at the output for power and signal quality. I was told that the sign wave was nice. It had several harmonics, but they are below the tolerance. The disappointing news was that the output power measured at 175 MW. I had a spare 2N2219 and replaced the amplifier 2N3904. This change yielded 330 MW out. Then, just for the heck of it, I changed the 9v battery to an alkaline. Now, I am maxed out at 425 mW (almost half a watt, not bad at all).

What good is any radio unless you can communicate with it, so I hooked up a straight key to the two leads hanging out of the little plastic case I found (2.25" x 3.5" x 0.75") and began to call CQ CQ.... Too bad such a small pocket radio couldn't be completely self contained. That lead me to my latest mod. I took a personal computer back plane blank and cut it to size with tin snips. I drilled a hole through the metal tab and the plastic cover of my enclosure. This provided a mounting point for this make shift key lever. As a contact point, I mounted another small screw through the cover and under the front end of the key lever. The key leads are connected with nuts to the underside of the cover to these two screws. Viola, a built in straight key.

Now for the more serious business of making a contact. After a few days of trying on and off contacts, I hooked a QSO from "Elmer, N.J.—20 miles south of Philly" as stated by my QRO contact. His report to me was "WOW HALF WATT—UR 559 HR." The only problem I have now is that the receive cannot be shifted at all and if the other person is not exactly where I need him to be, I can't hear too well. Maybe I'll have to add a RIT control or something. What a way to learn —out of necessity or desire for change. My next contact was scheduled with my friend Mike

—AA2QO from his parents home in Pine Hill, NY, about 3 to 4 hour drive upstate from my QTH on Long Island. He gave me 579/589 and very nice tone quality.

This project got me thinking about the Boy Scout Radio Merit Badge that Mike and I are in the process of teaching along with about six boys and two fathers. They have to build a project from scratch using a soldering iron and various components. I've already started collecting the parts and when I come up with cheap 3.579 MHz crystals, I can offer them a radio they build themselves which they can use to listen to WIAW code practice or live QSO in the Novice portion of the band (3.686 MHz). When they get their operating licenses, the key portion of the rig can be enabled cheaply and easily and they're on the air with a home brew QRP station. How's that for starting them off on the right foot?

Now I think I'm ready for my NN1G SW-30 to arrive. Maybe I'll have just as successful a time on that kit. One thing for sure, building it will definitely be exciting. I can't wait to start. Maybe I'll work some of the other members.

72 for now
Nick Franco - KF2PH, NE#349



Jim Fitton - W1FMR

The Dayton Hamfest this year was outstanding. It would take a book to relate the interesting activities occurring with QRP group alone. If you have not experienced the biggest hamfest ever by now, why not? We are dead a long, long time and only travel this road once (as far as I know).

At Dayton, Doug Hendricks, KI6DS and Chuck Adams, K5FO thought up and ran a little contest. Tiny circuit boards were handed out along with a schematic and parts list. Your assignment, if you chose to accept it, was to find the parts in the flea market, bring them to the hospitality suite that night, build a Pixie II transceiver, and put it on the air that night. What an absolutely stupendous idea! Those guys are really zany!

On Saturday night, 170 QRPers attended the QRP-ARCI banquet, and the president of TenTec, Wayne Burdic, talked on anthropometrics of QRP equipment design in which he received a terrific ovation. After the banquet we retreated to the QRP hospitality suite. Roy Lewellen, W7ZOI, George Dobbs, G3RVJ, Randy Jones AA2U, and many other famous people were helping the 10 to 12 who were busy soldering Pixie rigs together.

Did I mention the New England QRP Club donated a Thirty-40 transceiver as a banquet door prize? Also the NorCal club gave an all-band Sierra kit, and Small Wonder Labs, gave an Eighty-40 transceiver kit, plus Vibroplex, their newest keyer, and TenTec some new kits, and about 20 other excellent prizes from Kanga, G-QRP, MI-QRP and many more. I can't remember all of them. Last February, Pete, WK2S on QRP-L (Internet), asked if there were going to be a QRP banquet this year at Dayton? I asked him if he would run it, and he said...What should I do? After relaying the basics, he became absolutely engaged. He lined up a caterer, prizes, speakers, and the whole shebang. What a guy! What a club!

At the hospitality suite, some folks were busy either soldering or showing 'newbies' how to read component values, strip wire etc.... What an experience. I had a lovely young lady at my elbow discussing the finer art of home construction, board stuffing, and soldering. We may have soldered, but did not inhale! At least 6 finished rigs were entered into the competition that evening, and all were working (in one form or another)! Bob, VE2DRB and I worked as a team. He supplied parts and soldering equipment, and I tried to keep him in beer, steal his parts, and slow him down as best I could. Tough assignment though! Imagine scrounging parts in the afternoon and finishing a complete QSK rig in a couple of hours. I finished mine the following week at home and put it in a colorful Altoids tin along with a tiny 9V battery. So far, I have made 3 contacts with good reports on 3.579 MHz. At 300 milliwatts output, the tiny battery is still

going strong, and the rig drives a small speaker! For 3 active devices, and about \$10 worth of components, it is a little gem, and a powerful TVI generator to boot, even on receive. Send \$12 for a kit post/paid to HSC Electronics, 3500 Ryder St. Santa Clara, CA 95051. "The Excitement Is Building".

Jim Fitton - W1FMR



MT. HALE AND 30 METERS QRP

WHITE MOUNTAINS NATIONAL FOREST

Dennis Marandos - K1LGG
Nashua, NH

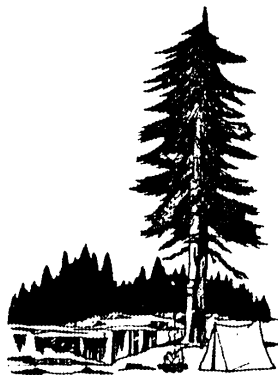
The mountain trip had been planned four weeks in advance and I was to guide my seventeen year old son, Justin, and his two friends on a Saturday hike into the White Mountains of New Hampshire May 27. It was agreed that I would bring along my radio gear because I am the driver and the guy who knows how to climb Mt. Hale. It was also agreed that Justin wouldn't complain when I took an hour off from our climb for me to string a dipole and work some of the DX just waiting for my QRP signal. My son with his two friends packed into Dad's car and headed due north, one hundred twenty miles into the White Mountain National Forest. For those people who have not been in New England, New Hampshire has the most number of mountains than the other five states and the most number of mountains with a 4,000 foot level or higher. This may seem quite mundane, however, hiking and "hill toping" with a handy on these ridges is "primo."

We arrived at the Zealand trail, Halebrook & Lend-A-Hand trails at 9:15 am, ready to zoom the 9 miles. I had my handy, my Thirty-40 and a pretty heavy 12 volt gel cell. I knew the kids, who were all 17 years old, would complain if I asked

them to carry my radio gear, so I opted to carry a 'large' knapsack for my water, small lunch, extra socks, sweat shirt and long pants. It was pretty heavy, but you never know what to expect when climbing any mountain. I also had my key, earphones and dipole in a waterproof bag neatly stored away till we reached the top.

As with most climbs, the early morning sun is pellucid in just about any corner of the US, but when the clouds start rolling in, about ten in the morning, the weather truly is defined for that day. Sure, you can listen to the National Weather stations, but they tend to extend their prognostications to included everything, just in case anybody should question their forecasts. The sky was azure blue and the air temperature was a cool 65 degrees. The precipitation was damped from the previous night and we were headed onto a decent climb. Total time to top was estimated at about 2 hours or less.

I couldn't wait till we got to the top of Mt. Hale and do some QRP work. The boys were twenty feet ahead of me, throughout the entire climb, and they had a much lighter backpack. I kept insisting that they shouldn't run so often or they would be out of strength by the time they reached the top. Right! I am talking to three teenage boys! That was a waste of time.



As we drew nearer to the top, you could feel the air turn denser and the temperature drop. The tree line was thinning, but never to the point of total rock. The total height of Mt. Hale was 4,054 feet, and the trail began at the 2,100 foot mark. I was *psyched* about operating from the mountain and kept thinking of how I would set my portable station. Over and over I kept asking myself which way was north and which way was west. I wanted especially to work the West coast.

Finally, when the crew was ten feet away from where the old ranger station used to be on top of Mt. Hale, I yelled to the ghosts of the mountain that I was coming, ready or not. At this moment, the sky had turned pretty gray and the temperature must have dropped 10 degrees since we started our excursion, but worst of all was the intimidating spitting of droplets on my glasses. This was New England, and if you particularly didn't like the weather, just wait a short while and the elements will change. I knew what to do, after all—I'm Mr. Cool and a smart Dad. You don't think for a minute that I would bring my son and two of his friends on a hike and have the weather turn on us?

The environmental factors were increasing and I knew something was up, but I was resolute to get my station operating. The boys wanted to eat a sandwich first, and being the group leader I suggested the boys not eat and drink too fast for they might get dizzy. Again, I forgot who I was talking to. Out came the bags of Nachos, potato chips and heavy duty Coca Cola along with desserts made with chemicals I couldn't even pronounce on the side of the bag. Ugh! Give me a break, but I insisted we set up my station real soon, so the boys could walk around a bit while I did some CW.

Fate has a way of presenting farrago weather to the unsuspecting neophyte. No sooner did I reached into my knapsack for my radio gear, and no sooner did I uncurl my dipole, it started to rain. I mean, this was the mother storm of all storms and Armageddon was just a warm up. The boys had brought their jackets, with rain hoods, while I only had a hand towel, socks and a sweatshirt. It didn't look like the rain was going to stop and I motioned to the boys to just sit tight for a few minutes while this 'bimbo' rain cloud passed over head. Fifteen minutes had gone by and the rain was filling anything that could hold moisture. It looked like the hike was a wash and we started down on another trail. Damn, I wanted to operated!

The climb down the mountain is always easier, but nastier because gravity tends to pull you forward. I instructed the boys to walked slowly so they wouldn't slip and roll the rest of the way, but there I go again...I forgot who I was talking to. Three teenage boys, who had their fill of whatever chemicals were in their lunch, bouncing down the side of Mt. Hale and having a pretty good time. I kept my vociferation within their ear shot and reminded them I had the keys to the car, which was another six miles away.

I'm pretty sure our assemblage hadn't traveled twenty minutes down the mount when the sky opened with beautiful rays of sun and bright patches of blue sky. I couldn't believe it! The weather was perfect and here I was going the wrong direction. Great! Do I ask the guys to turn around and head back so I can get a little CW time, or do I keep going down because they're running and I am not? Superfluous to say, we kept going down, side-stepping the six inch puddles of water and four foot wide streams in our lane.

After we got to the car and unpacked our gear from our backpack, my son and his two friends said they had a remarkable time and wanted to go again, and that if I wanted, they would carry my radio gear next time. I lost my breath on that proclamation but managed to grin from ear to ear and said, "You bet!"

What I thought was a hike into hell, a death march straight up, the boys thought was pretty COOL. What other dad would have bothered to take the 'guys' onto a mountain, have twenty foot visibility at the top and gracefully become thoroughly soaked? They had fun, but it bordered on what the definition of fun was. I had to say I sure did miss operating at 4,054 feet but they did say they would carry my gear next time. I hope my marine battery won't be too heavy for them...YES!

Dennis Marandos - K1LGQ

Nashua, NH

k1lgq@dennis.mv.com

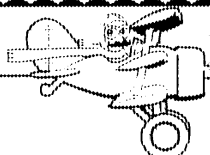
Thirty Meters Is Shared, But Why Is It So Noisy?

When you're operating 30 meters, you're working with a host of foreign broadcasts which serve the world. The following list will make a little dent into why this band is a little noisy. Please up-date this list and send your revisions to me for further publication.

Dennis Marandos - K1LGQ

FREQ	CALL	MODE	BAUDRATE	REMARK
10.102	-	RTTY	48-ARQ-E3	Unidentified station with special code
10.104	-	RTTY	81-SPEC	Unidentified station with special code
10.105	-	RTTY	RKA 79	TASS Press Agency Moscow, URS
10.106	AOK	RTTY	75	US Naval Radio, Rota
10.108	-	RTTY	200 SPEC	Unidentified station with special code
10.111	5 YE	RTTY		Nairobi Meteo, KEN
10.112	-	-	75 SPEC	UNID Station with special code
10.114	-	RTTY		KPL Press Agency Vientiane, Laos
10.115	BAF 4	FAX	F3C +/-400	Beijing Meteo, CHINA
10.120	RFFAA	RTTY	72-ARQ-E	French Ministry of Defense, Paris
10.120	RGI 24	RTTY		TASS, Press Agency Moscow, URS
10.122.0	-	RTTY		CLP1 Havana, Cuba Foreign
10.137.0	5			Dead carrier heard all night!
10.117.3	2	RTTY		too weak to decode
10.128.3	5	RTTY	45 baud 6 bit	unidentified COMM
10.130.3	3	RTTY	300 baud 5 bit, encrypted	COMMERCIAL
10.130.3	3	FAX		120-line meteo chart at 0300Z
10.107.5	ATE 60	FAX		F3C +/-400 New Delhi Meteo, Independ.
10.116.6	P6Z/RFGW	RTTY	144-FEC-A	MFA Paris, France
10.107.7	3	RTTY	75 baud 5-bit	meteo traffic ATE60 Delhi, India
10.104.7	3	RTTY	300 baud 5-bit, encrypted	COMMERCIAL
10.130.0	5	AMTOR		

**ENOUGH INTEREST FOR
QRP FORUM IN ALABAMA?**



The Annual Huntsville (Alabama) Hamfest will be held this year on August 19 and 20. We've never had any QRP related activity in conjunction with the hamfest and I'm wondering if it is time to change that. Is there is enough interest on the part of QRPers in the Southeast to make it worthwhile to organize a QRP Forum?

Assuming the support is there, is there anyone who would be interested to grab the ball and make it happen? If someone would like to try, we can provide at least an hour Forum meeting room time slot (2 hours if you need them) and one table (8-foot) booth space somewhere near the other clubs and organizations for representation.

There will be competition from a DX Banquet and the main Hamfest Banquet Saturday night, but there are alot of places around the area where we can set up a "QRP get together" and gab session if the interest is there

If you are not familiar with the Huntsville Hamfest, it is no hole and corner affair. Access the Huntsville Hampage at, "<http://iquest.com/~femens/hampage.html>" and click on the reference to Huntsville Hamfest to see what kind of operation we put together every year. We're not Dayton, but we're no slouch either.

If you would like to see a QRP Forum and are interested in participating, let me know.

Frank Emens, W4HFL
femens@iquest.com

QRP AFIELD - 1995

QRP AFIELD - 1995 is sponsored by the **QRP Club of New England** and is designed to encourage QRP enthusiasts to field-test their radio equipment using temporary antennas and non-commercial power sources.

Date/Time

Saturday, September 16, 1995. 1600Z to 2400Z. You may operate a **maximum of six hours** during the contest period.

Exchange

QRP-NE Members:	RST, State/Province/Country, QRP-NE#
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 non-commercial power and temporary antennas.
High Power QRP:	1 to 5 watts output.
Low Power QRP:	Less than one watt 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 field location using high power QRP.
- 8 points** for each contact from a field location using low power QRP.

Multipliers

Each State/Province/Country worked counts for one multiplier. Multipliers may be counted **only once** regardless of band worked.

Awards and Results

A plaque will be awarded to the station with the highest point total. Certificates will be awarded to the ten stations with the highest point totals. Complete results will be printed in 72 magazine. To receive a copy of the contest results, please include a #10 SASE with your contest submission.

Address

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

Name _____ **Call** _____
Address _____ **QRP-NE#** _____

FINAL SCORE =====

- Transmitter/Xceiver _____ Power Output _____
 Receiver _____ Power Source _____
 Antenna _____
 Location _____
 Comments _____

16



Just What Do You Need to DO?

Chuck Adams - K5FO

Over the last five years or so, I seem to have a new spirit within myself and only through some introspection lately have I seen what may be a clue to what is going on in my life.

You've heard all the words of wisdom written and said by men and women far wiser than I on life in general, and I won't repeat or try to philosophize here. It's really more than a box of chocolates.

I've found that I'm having more fun now with amateur radio than I had had in many years. When I was active in my early days before going off to college, working through a bunch of degrees, and in general trying to keep ahead of the rat pack, I spent a lot of time building Heathkit equipment. Even when working on a Ph.D. Later when Heath was in business, I always looked forward to getting their catalog, going through it to see what piece of new equipment or gear I just couldn't live without and then order it. After receiving my kit, having the pleasure of building it and getting it on the air, if it were a rig, was what I enjoyed the most. When HeathKit got out of the business or got to point that everything new they produced wasn't what I

was interested in, then I guess I went into a state of depression or withdrawal.

Lately, radio has changed dramatically. Dave Benson - NN1G (Small Wonders Labs), Wayne Burdick - N6KR and the NorCal Club, Oak Hills Research with KE8KL at the helm, MXM Industries with Bruce Williams - WA6IVC, and a list of others have brought kit building back into the limelight of QRPers and hams in general. QRP is on the cover of the ARRL handbook and within the handbook itself. There are more QRP projects in the other magazines as well as *QST*. Needless to say, I've been busy building and experimenting a lot. I'm happy and I don't have to pay a shrink \$150 per hour when I can spend the same amount of money and get six hours of therapy! The vacuum that HeathKit left behind has attracted some new names and designs. I think it's neat and it is certainly better now that you and I have so many choices. We do more work to make a selection, but we are better for having more choices.

I have spent 99 percent of my time on 40 meters CW for thirty-seven plus years, and for a change I'm operating 30 meters this summer. Thirty meters is looking great. I'm in a race with Bob White - WO3B, to see who can work the most ARRL sections and countries. At the present time he is in the lead, but stay tuned for results toward the end of the summer. If you happen to hear either of us on the air on 30 meters, work me and leave him alone. Just kidding, work us both if you can.

Now to the point. If you are in the dumps, I think that you may be having withdrawals and just not realizing it. When was the last time you built something? Like the chili commercial on television, it has probably been too long. It doesn't have to be a real big project either. You may have your work, school, family and tons of other pressures on you daily, but just try to set aside 30 minutes or so a day and sit down and plan some "quality time" for yourself. After you get a new rig, and I don't think you can have too many, you need to get it on the air. If QRPers do not get on the air then we will slowly, if not rapidly, lose our favorite gathering spots to other special interests. This is in my humble opinion. If you don't have time and money for a complete new kit, then shoot for a 25 KHz frequency marker such as the one in the ARRL HANDBOOK or just an oscillator. Anything you build will be something you can use, or learn, by building. Read and research—look for what will get you turned on again.

HERE ARE MY SECRETS

1. Put up the best antenna you can. I spent a big \$40 or so and got 450 ohm ladder line and put up a 40 meter end-fed long wire pointed north. I've got 49 states on 40 meters with 950 milliwatt of power output. It took some time due to travel, etc. over the last year to eighteen months, but the old map has a lot of pins in it. The elusive KL7 is still waiting out there somewhere for me to pounce upon. While waiting for winter time and 40 meters to come back with less QRN, I'm starting over on 30 meters.

Do the best you can to get up a good antenna with your financial and physical restrictions. The antenna is number one. Any transmitter can output a couple of watts to a dummy load, but you need to get the signal out into the ether.

2. Pick a band and set a goal. Maybe 20 states in months or 20 countries, increased CW speed, or whatever you feel like will be both an incentive and pride of accomplishment. Maybe setting a new mile/watt number for yourself. Go back through the logbook (you do keep one don't you?) and see what your best record is.

After looking at the first sentence of #2 I'd add pick a band that is active. No use spending a lot of time on 10 meters, but, if you do, when the sunspot cycle returns, you'll be ahead of us.

3. After you get going, write it up for ZZ or your favorite newsletter or magazine. They are hungry for new authors and new heroes. We the readers are interested in human achievements and failures. In fact, we learn more from our own failures than we do from our successes. Think about it. We pass the easy stuff by and we work and learn on the hard stuff. Keep us informed. Inquiring minds "wanna" know. We've been there and done that.

Lately I've noted that when I'm on the air or doing an ARCI contest, a lot of people who I don't know call me by name right off the bat. Scary. I'm doing nothing different now than I did a long time ago except that I write it

up or talk about it more. You can do the exact same thing. It's really scary putting what you do in print. People are going to comment and criticize, but hey—if they can do it better then let's hear from them. We want doers not critics.

4. If you need help, ask. If you don't have a local QRP club, then you are automatically the new President of same. Your job is to get a catchy name and start getting new members. Meet once a month and even if there are only two of you, get started. Every journey starts with a single step. Let us know the details and we'll make sure the rest of the world knows that you're there. No use in duplicating effort. That's why you see clubs such as NorCal (Northern California), NE (New England QRP Club), CQC (Colorado QRP Club), and others taking off. There are a lot of "closet" QRPers out there. Let's Bring'em out into the light.

In summary: you need to **DO** it. Just like the shoe commercial. Don't put it off any longer. Life is too short and things that are put off may be put off too long. No charge for this "fatherly" advice.

I hope this short article will get you to thinking. If you've done the above, then share it with someone else and help them get to where you are. You have been there and therefore you can be a leader or Elmer to someone else and you'll both be better for the experience. Why keep all the fun to yourself?

dit dit es cu on 30M de K5FO

Chuck Adams



Mark Your Calendars
QRP AFIELD CONTEST
Saturday
September 16, 1995

CUT & PASTE

DENNIS MARANDOS - K1LGQ
NASHUA, NH

I have always wanted a professional looking homebrew station, but when I get to the part where I have to have letters, diagrams and graphics in just the right place...my whole project looks like something for Tonka toys. Let this notion be placed as far away from you as possible because I want to give you some of the finer "decals" you can cut and paste onto your homebrew and make your super station powerful looking...if not forceful in appearance.

CUT & PASTE has been a term used by all the word processing programs from day one and it means you're able to cut something you have and paste it where you want it. It is pretty simple and the only tool you'll need is a copy machine. The front panel of my homebrew Thirty-40 and Forty-40 have decals, or insignias, which tell the operator what to do with the switch in front of him. I placed them on my computer screen and laid out what I wanted and practiced a few times to have the positioning exactly where I wanted it to be. After I had finished my front panel with all that I wanted on it, I worked on the rear panel with even more information to help the operator to make my homebrew good looking. It does add a bit of class and it's easy to perform, however, if you don't have a computer or a laser printer to help your project along, then the cut & paste method is just what you need.

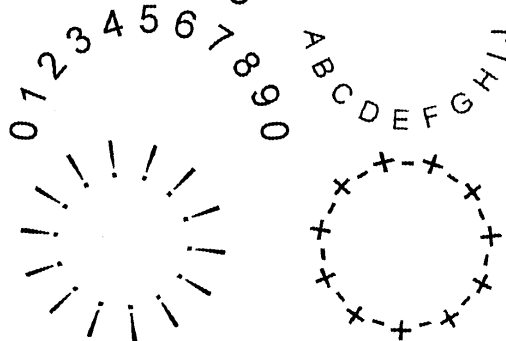
On a piece of paper, measure the full size of your front panel and draw a square on it. Within your paper-square panel, (mine is rectangular, which is pretty much what most homebrew rigs are anyway) position where you want your cut & paste to be placed. My QRP homebrew had a front panel which measured 21/8 X 57/8 inches and my switches and knobs were placed neatly in front. What you can do is cut the following information and paste it wherever you want to. Have a copy machine print your front panel and back panel layout. Take your best scissors and cut neatly within the border of your paper panel. Match it against your homebrew and make sure the holes align where they should and that you have the lettering straight.

When you're satisfied with your paper panel, cut a piece of clear plastic and place it in front, to keep

dampness and dirty fingers from soiling your project. I used a piece of black plastic tape to seal off the edges and to make it look nice. You can use any color, including clear—no color—to finish off your work. It looks nice and adds a professional touch. Let me know how your decals work and what can be done to make you QRP homebrew look better. If you want, in another issue of 72 I'll write an additional column for more decals.

72' & 73' Dennis Marandos - K1LGQ
k1lgq@dennis.mv.com

+++++
RF GAIN AF GAIN Osc.
50 Ω 50 Ω QRP Gnd.
VFO TUNE 30 meters
40 meters OFF 20 meters
12 volts DC Key ON MHz
Earphone + / - Antenna
Ø 1 2 3 4 5 6 7 8 9 10
Negative—mute Positive+
RF Sensitivity Ground
80 meters 15 meters OFF
10 meters mute 17 meters
Speaker spkr Ant. CW
RF OUT Frequency Aux.
Fine Tuning XCVR VFO



A High-band Gain Mod for the XX-40

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

I have received a number of inquiries about the availability of a 20 meter version of the "Forty-40" transceiver. Although several of these have been constructed successfully, transmitter tune-up seemed a bit too critical. This article isn't intended as a "how to" cookbook for a "Twenty-40," but instead describes a way to extend the transmitter's performance to the upper frequencies.

The Forty-40 started life solely as a low-band rig, and we added 30 meters early on due to popular demand. On 30 meters, there no P.A. (power amplifier) drive to spare, and most users find it necessary to set the drive pot (R2) nearly full clockwise. Without careful attention to the tune-up procedure, it's possible to lose the side tone, or to develop an unwanted chirp on the transmitter output. When these symptoms occur, the driver (Q4/Q5) is oscillating on a frequency determined by L3 and C25/C26. This effect becomes more pronounced as frequency is increased, for several reasons. In short—the free ride with low parts count and dense layout is over when we get to 20 meters! This is a case of "too much gain at frequency for one stage."

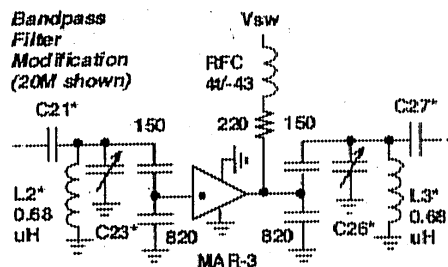
SALVATION: I had been looking for an excuse to use one of the Mini-Circuit Labs MAR series MMICs (Monolithic Microwave ICs) for some time. This trendy-sounding gizmo is already widely used by microwave homebrewers. Let's look at one of the MAR family:

MAR-3 characteristics

- Ib: 35 mA
- Gain: 12 dB (typ)
- 1 dB comp: +10dBm
- 50Ω nominal In/Out
- Unconditionally Stable

I had noted that imbedding one of these devices into the middle of the transmitter bandpass filter would not only provide additional drive but would

load the tank circuits to reasonably low impedance. The figure below shows the modified filter.



(Parts with reference designators reflect the existing "XX-40" parts numbering.) The tapped tank circuits match the 50-ohm MMIC impedance to a value of about 2 kilohms. See the *ARRL Handbook* for design formulas.

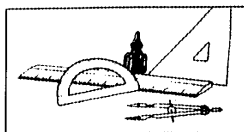
So, how did it go? In a word—instant gratification! After adding the extra circuitry on the back (foil) side of a "20-40" board, I found I was getting roughly 0.25 watts out with R2 backed all the way down, and bringing that pot up just over halfway yield a full 1.5 watts output. Even at higher PA drive levels, at not time did I see evidence of unwanted instability as I twiddled the trimmer capacitors through their tuning ranges. A peek on the spectrum analyzer confirmed the good news: 2nd-harmonic energy down 36dB—better than the 30 meter version, thanks largely to the heartier PA drive. I would suspect that this would be a solid performer on the higher bands as well. (The 20 meter version used a 9 MHz IF, in case you're curious.)

If you would like a pictorial sketch of this modification, along with the specs. (and sources) for the MAR family of MMICs, send me a business size SASE and I'll get them to you.

72

Dave Benson - NN1G

Mark Your Calendars
QRP A FIELD CONTEST
Saturday
September 16, 1995



**XX-40 Cabinet
Holding Fixture**
Why
make
your
own
cabinet?

**Joe Everhart - N2CX
Brooklawn, NJ**

One of the advantages/challenges of a cabinet-less kit such as the XX-40/SW-XX-40 is making your own case. It is a challenge because many of us are not skilled metalworkers. The advantage comes about because we can exercise our creativity in making a case that suits us individually. Though I'm no Tim Taylor, I came up with a case design for Thirty-40 that suits my needs and makes use of the skills and materials that I have at hand. Another advantage is that the skeleton of the case also serves as a holding fixture while performing the initial board checkout.

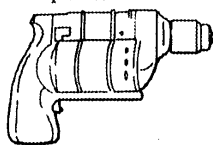
Dave Benson - NN1G, the XX-40 rig designer himself, published a wrap-around case design in an earlier 72. The only idea that held me back from duplicating his effort was the lack of a drill press to drill and tap the square stock he used to secure the cabinet pieces together. Since I have some experience at building with glass-epoxy PC board, I took the latter route. This decision was helped by the opportunistic purchase of about 25 pounds of double-sided PC board at a ham flea market for \$10!

DESIGN



The case design is very simple and is shown in Figure 1. Its basis is four rectangular pieces of copper-clad PC board material soldered together to form the four side walls of a rectangular box. Two additional pieces are used to cover the top and bottom. The top and bottom covers can be fastened with square stock like Dave does, they can be attached with L-brackets, or I'll describe another technique later.

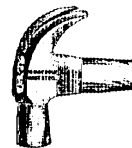
MAKING THE PIECES



There are several important ideas to note when building the case. First, the dimensions need to be adhered to pretty carefully. When sizing a chassis, be sure to remember that the inside dimensions of the box need to take into account the thickness of the material. I say this out of informed hindsight. Note also that the front and back pieces are 1/8 inch larger than the sides (assuming .062 material). This allows you to solder them INSIDE the front and back panels at the ends so that any imperfections are more or less hidden on the sides of the box. I do my measuring with a machinists square (I think that's what they call it) carefully scribing the material to be cut and making

a great effort to make everything come out at right angles. I cut with a good pair of tin snips and file to ensure that edges are parallel and straight.

CON STRUC TION



When you have cut the four side pieces, carefully clean the copper foil with Scotchbrite™ rinse with water and dry with a clean cloth or paper towel to get a shiny unblemished copper surface where you'll solder. I line up two pieces at a time, ensuring that they are at right angles and tack solder at two or three points with a 35 watt or higher Ungar™ iron. Then I recheck alignment and square. Realignment is easy with only a couple of tack solder joints.

When all is ready, I solder a continuous bead along the seam. Next the third side is tacked, checked and soldered, followed by the final PC piece. After doing a couple of chassis this way, the technique becomes obvious, so don't be discouraged if your design don't work out right the first couple of times you try it. Care is needed to ensure that the sides are all parallel so that top and bottom covers will fit without gaps. A little judicious filing may be needed!

At this point, you should have a rigid four-walled structure. I recommend that you use this as a holding fixture for your XX-40 while you check it out! Carefully measure where you want front and rear controls, and drill. Next, mount the board in the frame. You can mount the board either of several ways. The usual method is to use L-brackets attached to the sides so that the circuit board is suspended about midway in the box. I prefer to make the box just slightly wider than the circuit board and solder lugs to the board mounting holes with 4-40 screw hardware. The lugs are bent appropriately and soldered to the inside of the mounting frame.

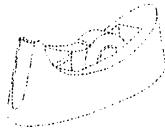
Now the controls can be mounted on the front and rear panels and wired to the board. I find it easiest to mount Vector™ pins in the board holes where external leads go to make connecting and disconnecting these leads as easy as possible.

THE CASE AS A HOLDING FIXTURE



This is an ideal fixture for checking out the board. All controls are wired and easy to use, there are no loose floppy leads to fall off or short out, the adjustments are easily accessible and the board-mounted components are protected from the physical damage that is inevitable with a loose PC board flopping around on your bench. The holding fixture also makes component removal and replacement VERY easy. I found this handy when I had to remove the VFO toroid to adjust the number of turns to set my tuning range.

FINAL ASSEMBLY



The last step in cabinet assembly is to install the top and bottom covers. Dimensions are shown in the accompanying figure for my case. They can be made a little oversize so that you can "file to fit." Of course my shop skills are so good that I NEVER have to do this! As mentioned earlier, you can mount the covers several ways. Probably the easiest way is to make some small L-brackets out of scrap sheet metal. Just cut out a piece of sheet aluminum to about $3/4 \times 1/4$ inch and bend into an L shape. I prefer to use sheet metal screws to hold them in place. To do this, drill out holes in the metal that is slightly undersize for the hardware you are using. I use #4 sheet metal screws from my hardware mega-store to begin. This way, if they ever strip a screw hole, from opening and closing the chassis to show off your beautiful homebrewing work, you can then just go to #6 hardware! For a small box such as this, you can probably get away with just one bracket on each side, top and bottom.

Another method of attaching the covers takes a little forethought. I tried it once and am still not sure if I'll try it again. It just uses eight pieces of PC board cut in a rectangular about $3/4$ inch on a side. They are soldered INSIDE the box at each corner before the board and controls are mounted. They must be flush with the sides of the box so the frame has to be put on a flat surface and the triangle taped to the corner for soldering. The corner of the triangle at the seam has to be "knocked off" for a close fit. Undersize holes as above for sheet metal screws are drilled after soldering to the box.

FINISHING OFF

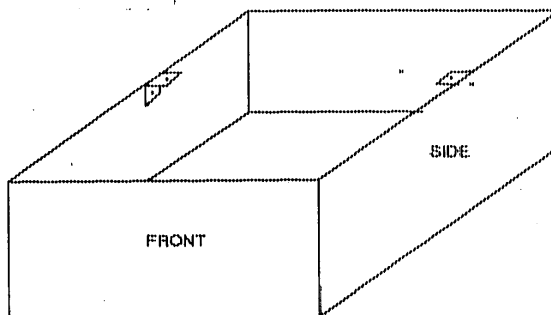
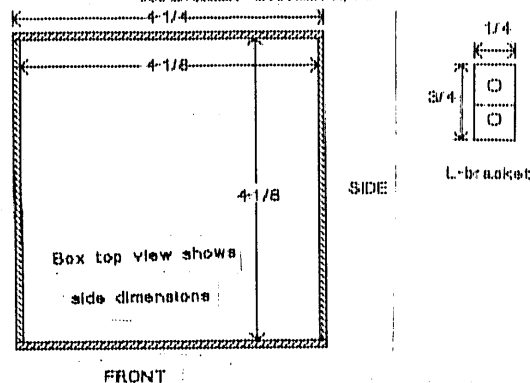


Now it's really up to you to beautify your radio. Final filing to make the cabinet pieces go together may be necessary. At the very least I recommend filing any sharp edges of the box because the glass-epoxy material can be very abrasive. Bare copper on the outside of the box, assuming you used double-sided board, will quickly tarnish. This gives a rustic no-nonsense finish. (Your wife says it looks like Hell!) You can either paint it or strip it. Painting is nice for something in a protected environment like your shack, but for portable use, I prefer to strip off the copper and leave a "natural" glass-epoxy surface.

Depending on the material you use, this may be an attractive tan, a sort of royal blue, or, in my case, a kind of industrial green.

72/73 and good QRP DX.
Joe Everhart N2CX
NE #280

N2CX PC Board Cabinet For JX-40 Series
Joe Everhart - Brooklawn, NJ

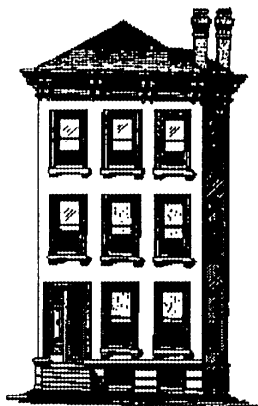


Isometric view - NOT to scale

New Members

Once again, it is with extreme pride that we acknowledge the following new members, who have taken it upon themselves to join one of the nation's fastest growing QRP clubs in America. Please, welcome the following new members into the ranks of New England QRP club member list and congratulate them when you see them. They have been bestowed the rights and full privileges of operation and will have the freedom to operate QRP on any frequency they declare. Extend a hand and say, "Welcome aboard!"

NE-352	Ideale Salvucci - KB1BFD
NE-353	Charles S. Kadesch - W8KUX
NE-354	Stanley Cohen - N5PXA
NE-355	John C. Kulp, Jr - N1UNI
NE-356	Arthur J. Aspous - N2LOI
NE-357	Francis A. Stains - KB5POZ
NE-358	Harold N. Downing - WA4LRU
NE-359	Walter Dufrain, Jr - AGSP
NE-360	Mark Gilger - WBØIQK
NE-361	Mike Cheng - N2HCU
NE-362	A. Bruce Pen - N9WKE
NE-363	James Larson - AL7GS
NE-364	Roy E. Crosier - KEØUQ
NE-365	Mark Lambert - (Ham to be)



Apartment Antennas

Jay Coote - WB6AAM

The following is a compendium of material from the Internet. I posed the question, "Had anyone any success operating from an apartment with an 'apartment Antenna?'"

1. One HF antenna I built, for a special operation, used a telescoping mast and a seventy foot wire (gray, thin gauge) attached to the tip of the mast. The wire was weighted on the end. This was not a disguised antenna, but it sure worked from a high-rise building balcony.

In this case, I used an ICOM AH-2 automatic tuner (any type manual or auto tuner for NON-COAX. whips and random wires will work.) The telescoped aluminum mast keeps the wire away from the building for efficiency and safety sake. The wire was weighted on the end.

SOME COMMENTS ON CONCEALMENT

You have to THINK CONCEALED for all steps of a concealed antenna project. If your helper has to be seen outside doing "funny electrical things" by snoop neighbors, you need a PRETEXT. Cleaning rain gutters? Security system installation? Telephone work? Cable TV work? Have a ham friend pose as a telephone or cable TV technician—don't go up there yourself.

Ham "antenna parties" are counterproductive if the antenna is covert. What you DON'T want are a bunch of hams, H/Ts and test equipment all over the place, frightening the neighbors. Some hams ruin a perfectly good disguised wire antenna project with shiny "antenna wire" and insulators that belong in a 1950's horror film. Use thin, stranded wire with the appropriate color of jacket. You may want to experiment with antenna/feeder lengths and your tuner in another location before setting up your concealed antenna. Some tuners have feed/antenna/counterpoise length combinations which may not work on some bands. You don't want to be seen pruning and experimenting on your "concealed" antenna.

Other parts of covert radio operation some people forget are the noise and visibility factors. You have concealed the

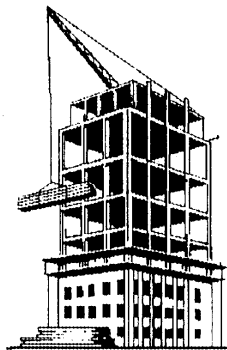
antenna—put the station where busybodies won't hear you shouting CQ or "torturing owls" (CW). Use headphones. speak close to the mike. To non-hams, CW and SSB racket is very unnatural and stands out. Keep the station out of view day and night.

Don't tell neighbors you are a ham. I know, emergency communications, public service and all that...but if it leaks out that you are a ham, you will be blamed for broken appliances, health problems, bad videotapes, UFO abductions and so forth. Have you ever tried persuading a troglodyte with an IQ of 37 that you had nothing to do with his/her cable TV going off in the middle of the "big game?"



2. My best successes while living in an apartment was with a disappearing antenna—using small gauge "magnet" wire out the window. To do this, mount a small flag holder (the type you slip a flag on a three foot dowel) into just outside the window near the rig. When night comes, you slip a wooden dowel, with a screw eye on the end, into it with the antenna wire run through the screw eye and wrapped around the screw once to take the strain, so your rig doesn't fly out the window if someone yanks the wire.

An alligator clip here can be useful if you will be attaching the far end first. Use a tiny insulator on the far end, attach some dark twine and when no one's looking, toss it into a tree or better yet connect it to a pre-installed clandestine hook you can get to via an outside stairway. I used to pretend to be carrying laundry down the stairs, then I'd pause and quickly attach my wire to the hook, toss the roll of wire toward my apartment, and then hook it to an alligator clip attached to the wire from the tuner—*viola*, I was on the air on the air!



3. Bottom floor dwellers have some advantages over dwellers on other floors concerning HF antennas. Single unit condo & PUD dwellers fall into this area. Dwellers in the mid-floor(s) have it the toughest, and top floor dwellers have other advantages the first two don't have. HF antennas are large and trying to hide one can be like trying to hide an elephant. Many hams try different configurations, snap together antennas, wires, and flag poles to conceal their antennas. Some work out, but most get caught in the end.

First, let's look at what you can and can't have. Most restrictive housing areas have a long list of items you can't have, such as clotheslines, TV antennas, utility sheds, outside flags, BBQ grills, etc. And most of all, the all important HF antenna is one of the items on the list! It has something to do with nice surroundings.

Make a list of these items and place them in a column on the left side of a page. Next, list what you can have and list them in the center of the page. Now, list the items that are readily available in the area of your home, such as trees, gutters, vents, fences, etc. Look closely and don't leave anything out. A hidden HF antenna must be just that, hidden to the naked eye, even at a point blank range.

Next, list the areas that you have immediate access. If you can get to the roof, write it down. How about the attic, basement, trees, etc., without too much observance by your neighbors? Most HF antennas are discovered not because of their design or placement, but rather a neighbor spies the ham installing the antenna or at least doing something out of the ordinary.

Your (X)YL creeping around on the roof, on a Saturday afternoon, is going to draw attention. Flinging wires over trees is sure to draw some attention. The big point here is not to install the antenna by looking like you're installing an antenna or doing something out of the ordinary. Anyone can say they're installing a PVC pipe supporting a bird house—use your imagination.

I also had good luck stapling #28 wire to the house wood trim, running to the top of apartments and along eaves—not getting caught is the trick. Good luck—if all else fails, pack up the rig and head for the park.

72/73

Jay Coote - WB6AAM

Mark Your Calendars
QRP AFIELD CONTEST
Saturday
September 16, 1995



Swim with Internet

As a future feature of the New England QRP club, this space will provide for members to send their Internet E-mail address to 72 for the fall issue. In October, an expanded list of all members and special interest groups will be published for all to share. To be included in this Internet directory, send your name, NE#, and e-mail address to the editor or E-mail your current address to:

kl1lgq@dennis.mv.com

Also, if you know of other noteworthy addresses to be included, this would also benefit the membership. Several of the following listings have appeared in the **Colorado QRP Club**.

ARRL in Newington, CT	hq@arrl.org
Ariz. QRP Club c/o AF5U	daveaf5u@aol.com
G QRP Club Geo. G3RJG	g3rjv@gqrp.demon.co.uk
Michigan QRP Club Lowell KC8FR	kd8fr@aol.com
NorCal QRP Club Doug KI6DS	dh@deneb.csustan.edu
New Eng. QRP Club - Jim W1EMR	mvj1@mvubr.att.com
No. E Illinois QRP Soc- Don K8GJ	kqzlovsk@ix.netcom.com
N Texas QRP Club Chuck K5FO	adam@chuck.dallas.sgi.com
QRP-ARCI Mike - W4SMCQ	mike.czuhajewski@humbbs@wb3flv.ampr.org
QRP Society of Central PA KT3A	bailey%6is%211eis@lung.193fs.ang.af.mil
St. Louis QRP Society Dave NP2R	rf2r@slacc.com
CQ Magazine	nw21@aol.com
Worldradio-QRP Ed-KI6SN	ki6sn@aol.com
MANUFACTURERS SUPPLIERS	
AES Wisconsin	rayg701830@aol.com
Bandmaster Quads/VHF-UHF	wa4fat@aol.com
Buckmaster	info@buck.com
Kanga US - Bill N8ET	kanga@bright.net
Kenwood - Lin KC6TXG	linkc6txg@aol.com
Madol/VHF Antennas	madolus@pnw.net
D. Benson - NN1G Small Wonders	bensonjd@aol.com
Ramsey / John Ramsey	jramsey@delphi.com
Tucker	abenoit@tucker.com
Vibroplex - Mitch WA4OSR	fmitch@maf.mobile.al.us

Please refer any errors or new addresses to the editor so a more accurate list can be provided. Serf the NET!