

October 1994

72

THE NEW ENGLAND QRP NEWSLETTER



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



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**. Floppy diskettes, MS-DOS Windows gladly accepted, and be sure to put your phone number and return address in case a follow-up is necessary. 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 JANUARY 7, 1995.

THE **72** TEAM

MEMBERSHIP - Jack Frake - NG1G, P.O. Box 93, 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, RR#2, 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 - Bill Legge - NT1R, 232 Forceside Road, Cumberland, ME 04110. Tel.: 207/829-5248.

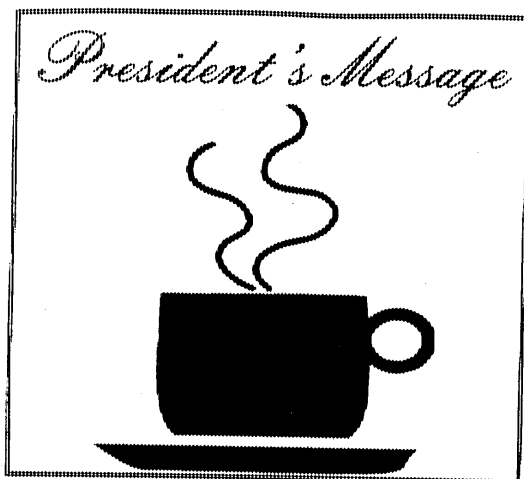
NEWSLETTER - Dennis Marandos - K1LGQ, 42 Cushing Avenue, Nashua, NH 03060-1816. Tel.: 603/883-8655.

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

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Here it is late September already and we are getting ready for both the hibernating, and prime antenna experimenting season here in New England. If any of you missed the QRP-AFIELD event two weekends ago, you missed it! The response was sensational as you will see further in this issue. The event was the perfect opportunity to take a buddy and your Forty-40 and Thirty-40 transceivers into the field and use it as it was designed and intended. Carl Heidenblad - N1CUU and I had a field day with 48 contacts during a 3 and ½ hour period. Carl is moving to PA and I sure will miss him. He has been an important contributor to the success of QRP-NE. Maybe he will come back to New England for the next QRP-AFIELD.

I can't believe the participation and positive comments about this event. Hats off to Chet Bowles - AA1EX for a superb job defining the rules and running the event. There is no other QRP event made for both portable and home operation. A stroke of genius! QRP-AFIELD is a huge success. Thanks to Dave Benson - NN1G for originally proposing it, and to QRP-NE for doing it. I am proud of the club! Remember, it all started here.

You know, there are timid souls out there that will never feel the excitement, pleasure and personal growth that comes from planning, operating, failing, and succeeding in running a club

project. For example, building a portable station, taking it into the field, and successfully (or unsuccessfully) using it, often under adverse conditions, provides a tremendous sense of satisfaction. There are no losers in an event such as QRP-AFIELD—only winners. While on the subject, congratulations to every volunteer that contributed to the success of this club. Those continually sitting on the sidelines are allowed to participate by applauding “Now...see how good it feels!”

The New England ARRL convention will be held in Boxboro, MA again this year. The club will have an information booth, speaker's forum, and a short meeting after the last spokesperson.

Dave Benson - NN1G and Randy Rand - AA2U are featured QRP speakers. Dave is a recognized expert in the art of Home Brew and Randy is a famous DXer and International contest QRP winner. Don't miss them! Please bring Home Brew projects to Boxboro and be prepared to talk to visitors about QRP, plus to help out at the booth. Any photos of the event used in 72 will have due credit given. The club could use a QRP club patch, logo pin, jacket or some way to identify each other in a crowd. Someone in California donated a beautiful patch to each NorCal QRP club member. I can't wait to sew mine on my backpack. I only wish I had a QRP-NE patch to sew on as well.

Harry McDade - W1LMU has reserved a QRP-NE table at the Framingham swap 'fest. Club members can use it free. Thanks Harry! Plan to attend the official QRP-NE club meeting at 10:00 a.m. on Sunday at the Rochester, NH flea market (Oct. 8) If someone has a table that club members can use, please let me know. If Jim Kearman, KR1S will invite us again to W1AW/QRP station and ARRL Headquarters, we can have a winter meeting in January or February. If anyone wants a buddy to operate with in the field, let me know and I will try to coordinate it with others. Meanwhile, keep those soldering irons warm, the building season is almost here. The excitement is building.

Best of luck 72. Jim Fitton - W1FMR NE#01

Mods for the "XX-40" Transceivers

Dave Benson - NN1G NE#-06

I've suggested a RIT add-on for the "XX-40" family of transceivers elsewhere in this issue, but wait—there's more! Here's a compilation of easy mods for the 40-40 and 30-40 to upgrade their performance.

Output power and Spectral purity

Several builders had reported difficulty getting a full 1.5 watts of output power, particularly at 30 meters. It turns out that the RCA4013 device we supplied is getting only marginally adequate drive on this band. A couple of changes are in order.

1) The PA (Q6) may be replaced with a 2N3553 or 2SC799 device. These transistors are available from Dan's Small Parts & Kits. The hotter device also improves transmitter spectral purity (a 4 dB reduction on the second harmonic for the sample we evaluated)

2) Drive level in the transmit chain may be improved by ensuring that the TX mixer is supplied by something close to 8 volts. As configured in the original version, the TX mixer runs on a nominal 6V supply voltage, although your mileage may vary. By incorporating the fix shown in Figure 1, signal voltage into the buffer section (Q4/Q5) was improved by 15% in the sample I fixed. If you don't have a 7.5 V zener handy, it's also possible to parallel the existing 2.2K mixer supply resistor with another resistor (start with 22K) to bring the key-down voltage (U5-pin 8) up to 7.5 volts.

3) The 2N2222 driver transistors (Q4, Q5) may be replaced with 2N2222A's for improved performance. The improved gain-bandwidth product on these devices reduces loading on the TX bandpass filter (L2, L3 and associated components) to reduce spurious transmitter output energy somewhat.

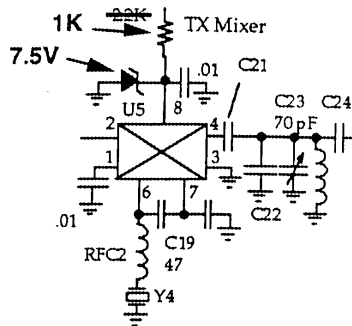


Figure 1: Transmitter Drive Level

Receiver Image Rejection

Remove and replace the .01 cap between the T-R bridge diodes and the RF gain pot (see Figure 2) with the following:

(30M) 47 pF

(40M) 68 pF

(Be sure to repeak C1.) This change has negligible effect on the receiver gain but improves the image rejection by about 6 dB, a noticeable improvement on 30M. *For what it's worth—you might question the use of a ferrite toroid for T1 as opposed to the traditional iron powder core material. I evaluated loaded Q for this network, measuring a 0.5 dB improvement in image (6 MHz) rejection for 30 meters using the iron powder core. I was reluctant to make that modest improvement, given the turns counts required for the iron powder version!*

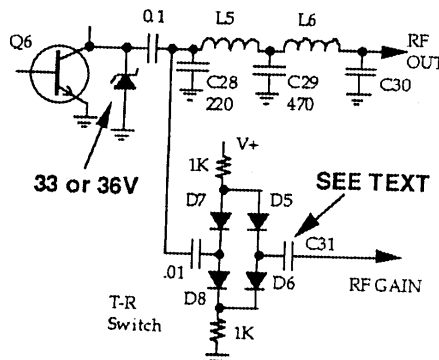


Figure 2: Receiver image rejection

Miscellaneous

One builder noted an audio howl which subsided when several locations in the receive chain were touched with a fingertip. This was traced to excessive supply voltage to the receive mixer IC's (a value of 8.2 volts for the offending case). Replacing the 78L08 cured this problem. I'm adding a series dropping diode to an upcoming board revision, but just replacing the 78L08 is a cleaner fix if you've evidenced this problem. This change also improves the receiver MDS slightly, although weak-signal reception should be limited by atmospheric rather than internal noise in any event. (A 78L06 is not recommended in this application unless its potential effect on the FET mute switch cutoff is recognized.)

If you'd like a little more gain in the receiver, you can increase the turns count on the secondary of T1. This will adversely affect the receiver's strong-signal handling capability, but you may find this to be totally acceptable.

Feel free to add a 33v or 36v zener from the collector of Q6 to ground as shown in Figure 2. This has negligible effect on performance but should save your PA should you neglect to provide a transmitter load (I would never do such a thing, of course!)

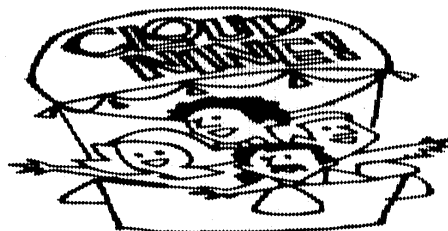
That's it! I hope you're enjoying the "Forty-40" and "Thirty-40" transceivers. Thanks to all who have provided comments and suggestions and for your support!

**72- Dave Benson - NN1G, NE#06
Newington, CT**

QRP AFIELD - 1994

The first NE QRP sponsored contest is now history and the log pages have been turned for another episode in radio. If you have not sent in your contest data, do so now. Also, send along any anecdotal stories you have, what your thoughts were and what you would like to see and hear next time. Thanks and see you next year.

**Chester (Chet) Bowles - AA1EX, NE#58
RFD #2, Box 335L
Sharon, NH 03458**



New Members

The Following names are the newest QRP Club members. Let's extend our hands and say "Welcome Aboard!"

NE#255 John Jaminet - W3HMS
NE#256 John Pratt - N1UA
NE#257 Jim Pope - KA0JJK
NE#258 Jeff Janock - N2MZH
NE#259 Francis Slavinski - KA3WTF
NE#260 William Acito - KC1GS
NE#261 Denis Morin - KA1ZNZ
NE#262 Brieu Pepperdine - VE3VAW
NE#263 Scott Sminkey - WO1G
NE#264 Peter Tung - WA2JMX
NE#265 Marty Harpen - KK4RF
NE#266 Tom Bowman - WA3REY
NE#267 Chet Blaszcak - KF2QY
NE#268 Jerry Brown - N4EO
NE#269 Timothy Stabler - WB9NLZ
NE#270 Les Shattuck - WN2V
NE#271 Daniel Alit - WD0CGA
NE#272 Robert Sangiuliano - N2ZWW
NE#273 Daniel Pope - WB8BHP
NE#274 Brian Keegan - KF2HC
NE#275 Thomas Stibal - W0PNS
NE#276 Al Fizz - N4FNG
NE#277 James Norris - N9RKB
NE#278 Michael Lewis - (no call)
NE#279 Howard Johnson - WD4FXX
NE#280 Joe Everhart - N2CX
NE#281 Steven Pituch - N2MNN
NE#282 Walt Yatsook - N1CJB
NE#283 Byron Johnson - WA8LCZ
NE#284 Stephen T. Gregg - N9RKS
NE#285 Thaire Bryant - KA1MJR
NE#286 John Liebenrood - K7RO
NE#287 Greg Greenwood - WB6FZH/KH6
NE#288 Craig Labarge - WB3GCK
NE#289 Burdette Peterson - WA2BQI
NE#290 Fred Turpin - K6MDJ



A Different Field Day

Al Bates W1XH NE#-15

Several years ago, a local ham tried to write a Field Day Manual, and hoped to document the steps necessary to organize and operate a successful Field Day event. Of course, this was an impossible task because every Field Day is different, every group is different, and everyone's idea of "success" is different. We decided to define success in a very limited manner this year.

We decided we wanted a low-key effort this year. Just three of us. We also decided to limit our power not only to QRP levels, but to the QRP_p level of less than one watt! No fancy antennas, no pressure, just operate Field Day and have fun.

There were only three of us: Randy Jones NE#22- KA9HAO, Dave Benson NE#06- NN1G, and me—W1XH, NE#15. The rigs were a Forty-40 on 40 meters that put out three-quarters of a watt, an Argonaut on 80, 20 and 15 meters that was throttled back to 900 milliwatts, and a Backpacker that never seemed to work right. The antenna was a G5RV look alike, which was a 102 foot long doublet, fed with more than 30 feet of twin lead and no coax. The antenna was as high in the tree as one could throw a wrench-and-string. In other words, not very high.

The results: not as bad as you might expect. The Forty-40 played amazingly well on 40 meters providing 75 QSO's in 21 states. The 'Argo' did about as well as expected on 80, 20 and 15 meters with 8 QSO's in five states, 36 QSO's in states, and 6 QSO's in 6 states, respectively. That's a total of 125 contacts in 24 states. The only embarrassment with the Forty-40 was it is much smaller than the antenna tuner/SWR bridge combination. We needed a smaller antenna tuner to even off the size!

Our operating site was the Allen Harbor Marina in North Kingstown, Rhode Island. We were right on the water and not too far from Dunkin' Doughnuts. Because it was public property, one is not permitted to drink beer or camp out overnight. The local police stopped by to chase us out until Randy- KA9HAO showed them our park permit. It seemed the permit people never told the police about the permit we were issued. As for culinary delights...NN1G, Dave Benson, fixed a fantastic meal of steak and salad and it was just what we needed. Good job Dave.

All in all, there was a lot of fun. We made quite enough contacts for all concerned, we got a chance to try out the Forty-40 under contest conditions, and we found out how well milliwatts of power worked on Field Day. For fun and satisfaction, it is highly recommended. You can't beat it.

72' & 73'

Al Bates - W1XH NE#-15

Chelmsford, MA

The Thirty-40 Adjustment

I am a believer, now that I have pieced together the Thirty-40 transceiver. Just as with Doug Hendricks' - KI6DS (NE#182) comments in the last issue of 72, it worked the first time...no smoke, no errors, no problems. On initial tune-up, I was down in frequency and added 1 turn to the local oscillator L1. Then I expanded the band spread from 16 KHz to 41 KHz by adding 100 µf to C9 on the bottom side of the PC board. I've made several DXCC contacts using my new rig portable half-wave dipole. I have a 12 volt battery, two tripods and my J-38 (straight key) sitting in the back seat...waiting. C U on 30 meters.

72' & 73'

Dennis Marandos K1LGQ -NE#151

Hot Rig Hot Line

Jack Frake - NG1G, NE#02

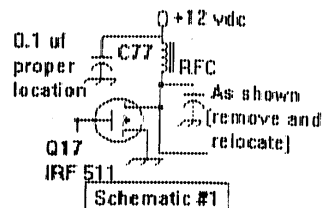
I just finished building Zack Lau's, KH6CP/1, NE#10, 40 meter transceiver from *QEX* and want to share quick thoughts and construction information.

If, perhaps, you don't subscribe to *QEX*, the rig is a superhet transceiver running about 3.25 watts out. The receiver is sensitive, quiet and sports 4 watts of audio—more than enough for my shack's environment.

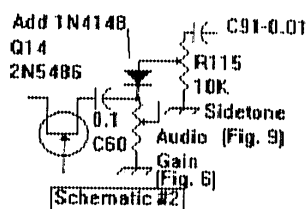
Zack has creatively design a great circuit. The T/R portion works amazingly well. He sets it up so the circuit stages sequence on in proper order and then reverses to mute in proper sequence. You cannot hear it function at all—a truly seamless "T/R switch." (More on that follows.) A MOSFET IRF511 is used in the final and is readily available. It loafs along without the need of a heatsink, although I added one just in case of a future antenna mismatch. Zack has thoughtfully added RIT and XIT. I find it best to set the transmit offset and leave it alone since I'm using analog TUNING. The RIT swings about 4 KHz.

Of the numerous QRP projects I've completed over the last 8 years, this rig ranks within the top three on my all time "Effort/Satisfactory Results" list. It has been a real joy to build and operate, not to mention knowledge gained from Zack's meaty article. I must confess, however, it didn't work when first applying the 12 volts DC! I made and corrected 3 wiring errors. Also, for those planning to build the transceiver, there are two typo's on the published schematic you need to be aware of:

1. In Fig. 8, page 16 (transmitter board) note that C77 should be on the "outside" of RFC3 (+12v side) and not as shown. (See schematic #1) This was a real puzzler for many nights. The rig appeared to be in proper working order, but nothing could be heard on the receiver. Fortunately, sharp-eyed John Collins - "KN1H, NE#03, our fearless Technical Editor for *QEX*, quickly spotted the problem during one of our daily 2 meter round-table construction QSO's. In short order, the rig roared to life!



2. I'm embarrassed to mention the second problem but let me shorten a long explanation and just say R115, 10K pot in fig. 9 (sidetone board) needs to be isolated from R88, 10K audio GAIN pot in fig. 6 (audio board). I did that by adding a 1N4148 diode between the two as follows:



It took several months to realize what appeared to be slow component degradation (audio went from FULL speaker to HALF headphone volume) was actually from my slowing reducing the sidetone level over a long period of time. The interaction slowly reduced the audio pot as well... You might say, "AIRHEAD, couldn't you figure that one out sooner?" Well, you would surely be correct but please understand that work and adjustments were made in many 5 or 10 minute increments over long periods of time. Anyway, unfortunately, adding the diode destroys the full QSK quality of the T/R circuit. Although, recovery time is fast, there must be a better solution. I invite your comments on this one.

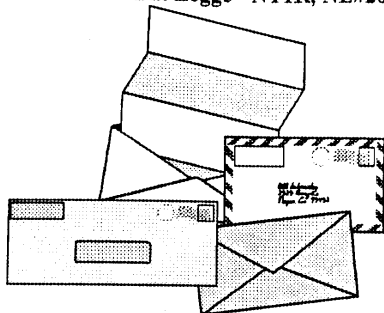
Zack's design has become my main station rig. As is said, "It's a real radio!" My first 6 of 7 QSO's were in different DXCC countries.

If you need a good 40 meter transceiver, build this one! I'll guarantee that if you exercise care in construction and in lay out, you will be extremely pleased with your efforts. The 15 page article "Birth Of A 7 MHz Transceiver" by KH6CP/1 can be found in the March 1993 issue of *QEX*. Obtain a copy from the ARRL, or if you need help, let me know.

Jack Frake - NG1G, NE#02
Barnard, VT

MEMBERS' NEWS

Bill Legge - NT1R, NE#20



Jack Frake - NN1G NE#02, reports...there is a bunch of building going on in the upper valley of the Connecticut River by club members Mike Schmitt - N1JYT, NE#192, Dave Schaller - W1IS, NE#200 and myself. We built Paul Carr's - N4PC, NE#184, "Fun Machine" for 40 meters and, after some struggling on my part, are all working beautifully. Dave - W1IS completed his for 30 meters. Check with Dave if you need component values for that band.

Even though we have had good WX this summer, Mike - N1JYT, and I have managed to stay indoors long enough to build Zack Lau's, KH6CP/1, NE#10, 40 meter transceiver. Now, that was a rewarding project! Look elsewhere in this issue for details. Mike has his transceiver in a case and my project is still sitting on the bench filling the shack with 4 watts of glorious audio. The first 7 QSO'S netted 6 DXCC countries. If you want a great fall project, this is the one to build. If you just want good reading, obtain a copy of Zack's 15 page article (March 1993, *QEX*), because it's jammed full of useful information.

I built the club's Forty - 40 and Thirty - 40 rigs designed by Dave Benson, NN1G. The 40 meter version works great...pound for pound, a great little rig. My 30 meter version doesn't work at all—trouble shooting is the 'norm' for me. Bob Finch - N6CXB, NE#242 also had problems with his Thirty-40, but, after much effort, developed several interesting solutions. If he doesn't publish them in this issue, check with him directly for the details.

For the fall, I'm planning two new projects—Paul Kranz's - W1CFI, NE#09, 80 meter transceiver, as 80 meters should be a hot DX band this winter.

Also, I'll continue efforts to build a good quality all-band receiver. Last year, I completed the 80 meter receiver appearing in the *ARRL Handbook* by Wes Hayward - W7ZOI and will attempt to add the "High Dynamic range MF/HF front end" (February 1993, *QST*) by N6NWP. The specifications look very intriguing. Dave - W1IS, Mike - N1JYT and I are currently collecting components and plan to start soon.

Ernie Gregoire - AA1IK, NE#202, has been building his Forty - 40, but had to stop to attend to his new bride, J.J. and their wedding/ honeymoon. Come on Ernie, we do have our priorities. Congratulations from all of us and now get back to work and finish that rig.

Gil Pilz - DL4WB/K9IQP, NE#249, has written about the *ULTIMATE HOMEBREWER*. Did you ever regret not keeping a diary? The QSO I had with a particular gentleman was not recorded in my log, but was recorded in the club station log of DL4BH in Germany at Kaufbeuren AFB. I can't recall his name or call, but I'll never forget the conversation.

It was late on a Saturday afternoon in 1956 and I was working 20 meter AM phone back to the 'States. I contacted a station in upper New York and had the usual exchanges. The gentleman's voice suggested that he may have been older. I found out that he was in a retirement home and was confined to a wheel chair. I made the comment that he had some hum on his carrier. He said that he was aware of it and that he would probably have to locate an old transformer so he could rewind it into a power supply choke. I asked, "You wind your own chokes?" His reply stays in my memory. "When I was a technician for Tom Edison, in Menlo Park, we had to make all our own parts."

This had instant impact upon me. Tom Edison was this half mythical person in a book that I had read as a boy. Here was a direct connection. By that time, other members of the radio club had gathered round the receiver listening in. I asked for a QSL and he said that he couldn't afford to have any printed. A quick consensus was formed and we told him that we would have 500 printed and sent to him for one in return. This occurred and the club, DL4BH, received a reply QSL. Why didn't I ask for one for myself?

Well, that is it for this issue. Please to write me before the next deadline of next 22.

Membership News Editor
Bill Legge - NT1R

CONSTRUCTION / CLUB KIT QUESTIONNAIRE

QRP New England

Please set aside several minutes to complete and return the following questionnaire. It is important to the club and those offering kits commercially. We will publish the results in a future issue of 72. Return your finished questionnaire to: Jack Frake - NG1G, P.O. Box 93, Barnard, VT 05031.

Your Call: _____ New England QRP membership number _____

1. Are you interested in building homebrew equipment? YES ☐, NO ☐, OCCASIONALLY ☐
2. If so, do you prefer: Kits ☐, obtaining components from scratch ☐, both ☐
3. How many homebrew projects have you completed?
1 ☐ 2-5 ☐ 6-10 ☐ 10+ ☐
4. Which construction method do you prefer?
'UGLY' ☐ Printed circuit ☐ Other ☐ (explain) _____
5. If a surface mount transceiver kit were available, would you be interested? YES ☐, NO ☐
6. In what publications (magazines, newsletters, etc.) do you find best circuits to build? List 5 in order of preference (more if needed)
7. Generally, in what price range do you feel is fair for a single band transceiver kit? \$ _____
8. Have you built a New England QRP Club kit? YES ☐ (which one? _____), NO ☐
9. Did you complete the Kit? YES ☐, NO ☐, STILL TROUBLE SHOOTING ☐
10. Were there missing components from the kit? YES ☐
(which ones? _____), NO ☐
11. What future kits would you like to see made available, either commercially or from the CLUB? _____

An Amplifier For Receivers With Low, Low Audio.

Dennis Marandos - K1LGQ NE#151
Nashua, New Hampshire

Okay, I admit it—my hearing isn't as acute as it was twenty years ago, but I can still hear something. It was firing my M-16 at Ft. Dix, NJ during the mid-60's that I lost partial hearing in my left ear. ("But Sergeant...I do hear CW ringing in my ear!") I am left handed and use my left eye to center the target but received the full concussion of the bullet blast in my left ear. Did I wear ear plugs? Did I have ear plugs? The unfortunate answer is NO, but from this 'handicap,' I put together a little hearing aid for the Thirty-40 I am using. You can also use this little baby for any other project you want to attach a speaker for others to hear as well.

The LM386 is an 8-pin DIP package and provides about ½ watt of audio to a low impedance speaker or headphone. A 10K ohm audio taper potentiometer is used normally to control the input level. The design will silence the speaker when headphones are plugged in. You might experience a little distortion on the CW pitch, but it should be negligible.

All of these parts are over the counter items from Radio Shack, or even better... they're the parts you find at all flea markets. Look around and you'll be surprised. Let me know where you get your parts and how much they cost you. In another article we'll compared costs from around the country.

Put this gem into your rigs and crank it up! And, when we're in the same room talking to each other, stand on my right side so my good ear can tune you in. Seventy-three's from New Hampshire.

Dennis Marandos - K1LGQ NE#151
Nashua, NH

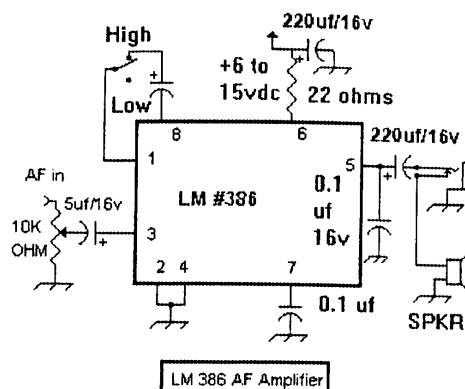


Figure #1 audio amplifier for QRP sound.



The QRP ARCI would like to tell all New England QRP members to participate in Dayton 1995. As some of you know, this will be our 10th year putting on a QRP show at the Dayton Ham-vention. We are planning early and will have a really special event this year. At this time, it looks as if we will have most of the major QRP vendors and kit dealers at our hospitality suite. Also, Reps. from most regional QRP clubs will have a table where you can find out what's happening in their area. Our Secretary/Treasurer, Mr. Myron Koyle, is again handling the reservations for rooms. Don't forget to attend the grand QRP banquet when you're there, too. Come join the fun and get involved! See you there.

^{'72}
President QRP ARCI
Les Shattuck - WN2V

RIT for the "30-40" and "40-40" Transceivers

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

Here's an enhancement to the "40-40" transceiver family which adds convenience in the form of an RIT add-on. This upgrade uses a 1.2" x 1.2" PC board which may be tucked alongside your original XX-40 board.

The circuit (see below) makes use of a widely available and inexpensive CMOS quad analog switch device, the CD4066. Any of the CMOS-family 4066 prefixes/suffixes should work. DC current is on the order of 100 microamps so this add-on won't influence battery life for portable operation.

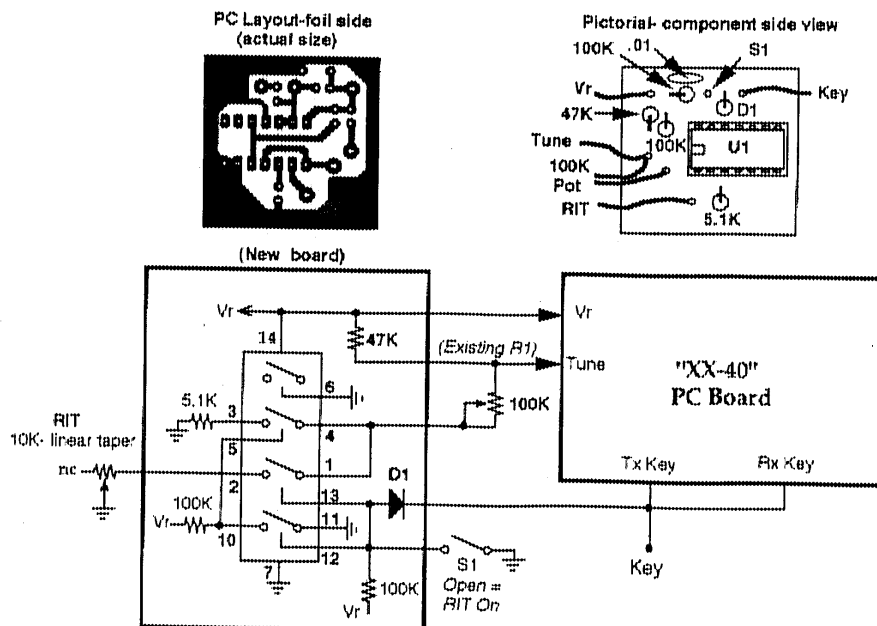
How does it work? Each of the IC's 4 switch elements turns on when its control pin is a logic '1' or high voltage state. Assuming RIT is enabled, U1 pin 13 is normally high, closing the switch at pins 1-2 and connecting the RIT pot to the transceiver's varicap biasing network. Whenever the transmitter is keyed or RIT is disabled via S1, this switch opens. The switch section comprising

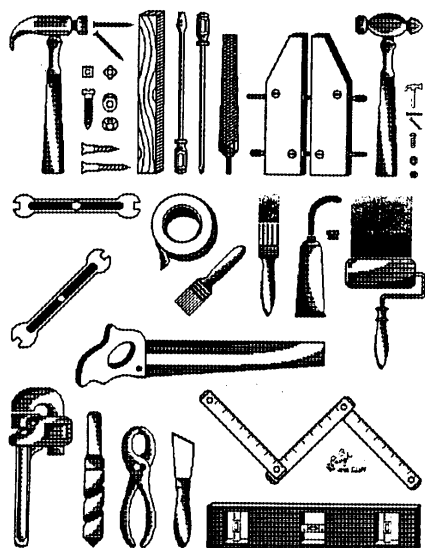
pins 10,11 and 12 is used as a logic inverter and instead connects the 5.1K resistor to the biasing network during these conditions. Simple, eh?

Construction is straightforward. A PC-board layout is shown below, along with a pictorial showing parts placement and interconnect to the existing 40-40 transceiver. Be sure to observe the correct polarity on the diode. I'd recommend using an IC socket for U1 and handling the IC as little as possible. *Point of interest:* You can mount this board standing up on edge, secured by a lug bent 90 degrees and soldered to one of the lower board corners. (If you insist, there's space to drill holes in three of the corners for standoffs and hardware.) One other note- this change decreases the available tuning range with respect to the original XX-40 design. To compensate, remove and replace the main board's C9 with a value about 50% larger to recover the tuning range.

Boards are available from FAR Circuits for \$3.50 postpaid. A complete kit, with PC board and all on-board parts including socket, wiring posts and ground lug, is available from me for \$5 postpaid.

73- NN1G





Home Brewing Tips

Walter Thomas - WA4KAC NE#238
Laurel, Maryland

(Ed. Note - Walt Thomas - WA4KAC NE#238 shares some of the refinements in home brewing and passes these excellent notions to the membership.)

1. **SOLDERING SAFETY** - Somewhere I recall reading a caution against inhaling soldering fumes; it may have been in *SPRAT*. I have noticed that during prolonged soldering sessions, the fumes from soldering would waft enough to be noticeable and even somewhat noxious. I can't imagine they are good for one's continued health and well-being. When I moved my kit building activities into the back corner of my garage (after I got married my wife insisted on my moving "all that radio stuff" out of the kitchen cabinets!), I began using a small 'box fan' located near the workbench whenever I soldered. Presto, no more soldering fumes! The fan doesn't have to be point directly at the soldering station, but just direct the air flow so it freshens the air around your project. It's not an "OSHA-approved" technique, but it does disperse the fumes from my personal air intake passage and olfactory sensors (i.e., nose).

2. BOARD STUFFING, BUILDING AND SOLDERING

- While visiting Michael Czuhajewski - WA8MCQ recently, he showed me his 'New England Forty-40' *in the works*. Mike had attached long ($\frac{3}{4}$ to 1 inch) spacers both above and below the PWB through the existing mounting holes. This made it easy to stuff the components on the top side and flip the board over to solder and trim the leads on the other side—a *real time saver*! In constructing my NorCal 40, I went ahead and mounted the front and rear panels to the board before mounting the other components; this performed the same function as Mike's spacers. This technique saved quite a bit of assembly time. I formerly used a "vacu-vise" to hold the boards, but the NC-40 board was too wide to be held firmly. (The rear panel of the NorCal was mounted using the antenna, phone and key jacks and the front panel with a small aluminum angle attached with 2-56 screws, but that's another story for later.)

When building boards, I use a magnifying lens (about 2X magnification, 3 inches in diameter and lighted, available from Radio Shack) to check solder joints as I work. It's easier for me to check the work as I go, than to do it all at once when a board is completed. It's also a good idea to check boards for shorts and opens with the lens *before* building is started; it's easier to repair any defects before the board is filled with components. I noticed my NC-40 board has several areas where the traces are very close together; there is a potential for shorted traces here or for opens on narrow traces. I've not seen any problems with the NC-40, NE-30 and S&S FR-4 boards I've checked; it's better to know before one starts a project that the board is not going to be a problem.

Also, I invested in a flush-cutting pliers which have a "prevent flying leads" feature. There is a small piece of metal which rides on the cutting part of the pliers and prevents leads from flying off into space (or your eyes) when they are clipped. The pliers cost eleven or twelve dollars at a local electronics' supply house, but it is invaluable both as a *time save* and for *personal safety*.

Walter Thomas - WA4KAC/3 NE#238

A Mini-expedition on 40 meters

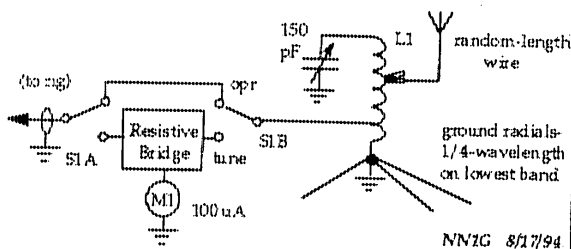
(or)

"How I Spent my Summer Vacation"

Dave Benson, NN1G NE # 06

After years of unfulfilled promises to myself about doing a true portable operation, I finally got the opportunity this past August. Our family summer vacation budget necessitated something low-key, so we borrowed a friend's cabin in the Adirondack mountains (yeah, I know- it wasn't New England, but cut me some slack!). The property covered some 90 acres, with no stinking line noise (or lines, for that matter!).

I took along a portable setup intended for 40M operation, the whole thing fitting into a 30-cal ammo case. The station consisted of an NN1G transceiver for 40 meters, a keyer using a Schurr mini-paddle, headphones, and a 1.2 Amp-hour gel-cell. A new (i.e., completed the night before we left!) homebrew tuner/ bridge rounded out the lineup. This last item was compacted into a 1.5" x 4" x 4" enclosure, and employed a tapped tank circuit with clip-lead connection to the antenna. (See the schematic below for details.) I chose this configuration because it allows a match to a random wire antenna with only a single variable component. In actuality, the location of the clip-lead tap to the antenna serves as a second adjustment, so this simple tuner is flexible enough to do the job quite handily.



The tuner components came from materials I found at flea markets. Inductor L1 was a 3" length of 1" dia - 8 turns-per-inch B&W Miniductor stock. As a guideline, the combination of L1 and the tuning capacitor should be resonant at roughly the midpoint

of the tuning cap range. The tap on L1 is 5 turns up from the ground end of L1. In practice, this is simply a resonant transformer, with the optimum clip-lead position established by the resistive component of the antenna impedance (it's a turns-ratio "thing").

The antenna employed about 120' of #26 magnet wire snaked through the cabin window screen and about 30 feet up into a tree at the far end. The length was set entirely by the proximity of that tree rather than by formula. (I must confess I was unwilling to wait for a tree of more suitable placement to grow to maturity on my behalf.) I formed a counterpoise out of 3 more lengths of magnet wire, each a quarter-wavelength long and draped away from the tuner in all directions. My first try at the antenna length yielded something close to a full-wavelength long- not good! By removing a few feet of wire I was easily able to match this random-wire antenna. If you can, avoid the multiples of a half-wavelength of antenna wire, as their high impedance may prove tough to match.

On-the-air conditions proved to be a true "mixed-bag". I made a dozen contacts all over the Eastern US on 40 meters, but many of the signal reports were mediocre. The stations I worked universally decried the lousy conditions, and indeed, QSB and static seemed to be the norm. Since my portable operation coincided with the weekdays, stateside activity levels were definitely down a bit. One bright spot in the log: a Ukraine station picked my /QRP suffix out of the clamor, and we enjoyed a nice ragchew-homebrew at both ends! Dave Gauding, NFØR, also reported hearing me but we were unable to work. The gel-cell held up well for 4 days of casual operation, and would no doubt be sufficient for a weekend of moderate operating activities.

Will I do it again? You bet! I'm looking forward to the improved conditions on 40 Meters this fall and already planning smaller and better things in terms of station packaging. I'd urge you to get out there in the field and make give those neat little homebrew rigs you've been building a good workout! Don't forget- Be sure to let our Member News editor know how you made out- we all enjoy hearing about special QRP activities!

Dave Benson - NN1G NE#06

Simple Electronic Keyer Using '555' Timer Chips

Len McGowan - VK4CWM
20 Catherine Street
AYR, Queensland 4807

Members may be interested in a circuit for an electronic keyer taken from *Solid State Design for the Radio Amateur* by Wes Hayward - W7ZOI and

Doug DeMaw - W1FB (ARRL). See pages 177 and 178 of the original 1977 edition.

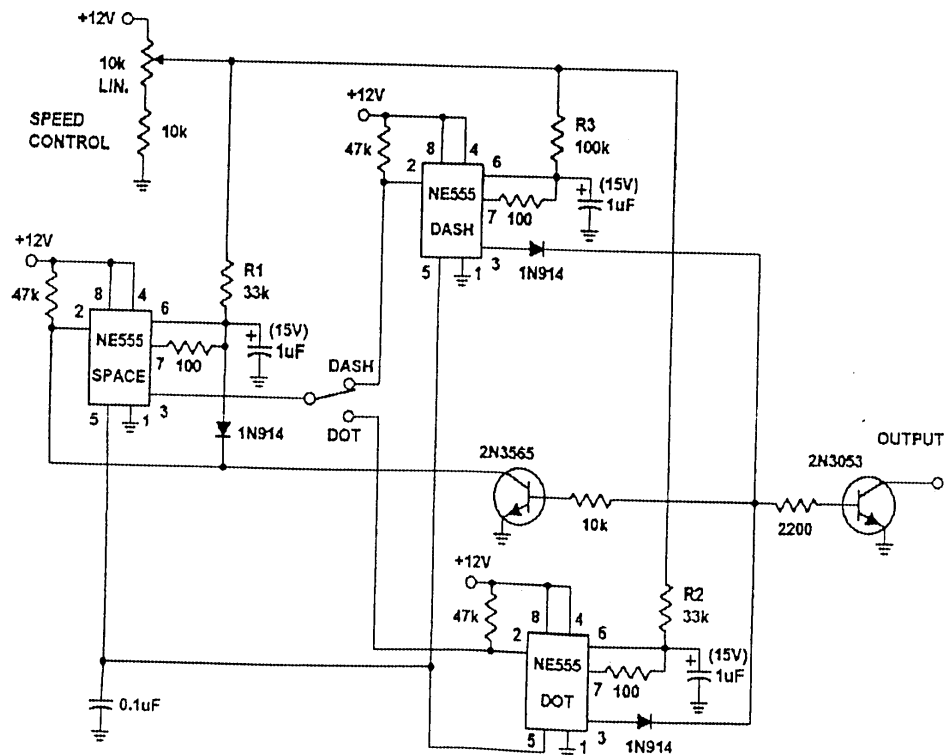
I have built a couple of these keyers which proved to be very good compared with other circuits I have seen. The **SPACE**, as well as the **DOT & DASH** is timed and prevents any tendency to cram

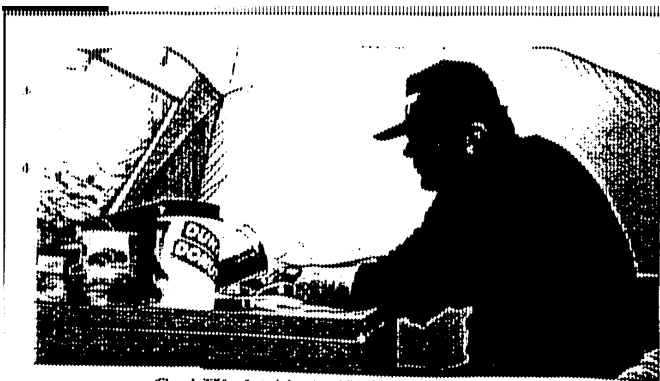
characters while sending. The timing of each of these units is done separately.

Note that there is no sidetone oscillator, however, I have used an audio amplifier from Dick Smith's *Furway Series No.2* to for great results. Most transceivers have their own sidetone anyway.

The keyer is simple to build and very inexpensive. I have built one on a prototype board, also obtained from Dick Smith Electronics.

Len McGowan - VK4CWM
AYR, Queensland 4807

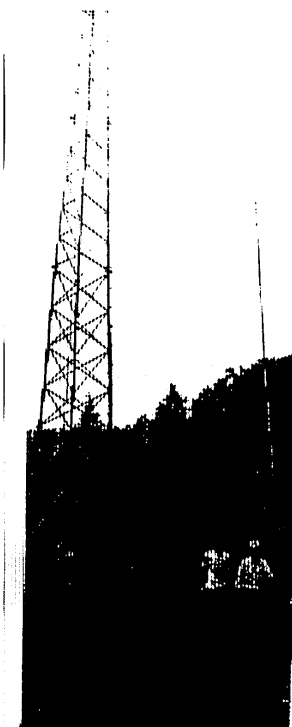




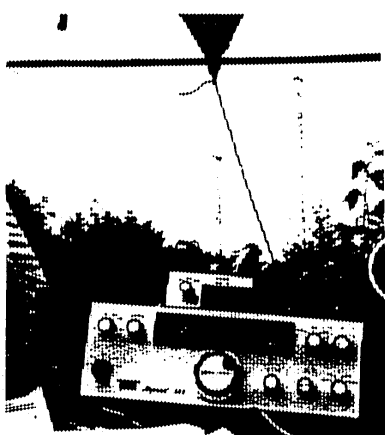
Carl Hiedenblad - N1CUU - 20 meter station
one Dun'kin Donut coffee



20 meter station with wind power-NOT



Jim Fitton - W1FMR and Bill McNalley - AE1D
ARRL Field Day in Massachusetts



View of 20 meter station - Sunday morning

W1FMR ARRL Field Day June - 1994



Mark Swarthout - NX1K & daughter
at 15 meter station in camper

All photos taken by Bill Acito - KC1GS, NE#260
Millbury, MA

CHARTS & GRAPHS

Dennis Marandos - K1LGQ

NE-QRP #151

From the last few issues of *72*, we have concentrated on useful charts which make it easier for you to operate your shack. The following chart will take you outside your operating room and up to your antenna. I have always measured and cut my antennas to the sixteenth of an inch, but I get lost in the decimal conversions when I see, for example, 46.2679 feet. We know that one-quarter of an inch is 0.25, and that 0.5 is one-half of an inch, hence 0.2679 (rounded to 0.268) is going to be three-eighths of an inch.

As an example, I wanted to cut a dipole for 30 meters on 10.115 MHz, and using the standard formula of 468 divided by the frequency (10.115 MHz), the answer was 46.26791893228 feet. Obviously, the 46 feet was easy to comprehend, but that remaining decimal threw me into wondering what it was in inches. Using the chart helped me to cut my antenna just where it should be without burning out my final guessing if I was close to operating frequency.

Try it and you'll catch on very fast. The left margin is inches, 1 through 11 (less than a foot) and the top line is parts of an inch. The following table will clear up any problems and make dimensions a snap!

Fractional Increments Per Foot

	0.0 in	1/8 in	1/4 in	3/8 in	1/2 in	5/8 in	3/4 in	7/8 in
0	0.000	0.010	0.021	0.031	0.042	0.052	0.063	0.073
1	0.083	0.094	0.104	0.115	0.125	0.135	0.146	0.156
2	0.167	0.177	0.188	0.198	0.208	0.219	0.229	0.240
3	0.250	0.260	0.271	0.281	0.292	0.302	0.313	0.323
4	0.333	0.344	0.354	0.365	0.375	0.385	0.396	0.406
5	0.417	0.427	0.438	0.448	0.458	0.469	0.479	0.490
6	0.500	0.510	0.521	0.531	0.542	0.552	0.563	0.573
7	0.583	0.594	0.604	0.615	0.625	0.635	0.646	0.656
8	0.667	0.677	0.688	0.698	0.708	0.719	0.729	0.740
9	0.750	0.760	0.771	0.781	0.792	0.802	0.813	0.823
10	0.833	0.844	0.854	0.865	0.875	0.885	0.896	0.906
11	0.917	0.927	0.938	0.948	0.958	0.969	0.979	0.990

Another conversion worth its weight is the prefix and suffix affixes which help us to read large or minuscule numbers. As a true radio amateur, trying to better your knowledge of electronics, you should be aware of the following prefix names.

Prefix Name	Symbol	Power of Ten	Multiplication Factor
exa	E	10 ¹⁸	= 1,000,000,000,000,000,000
peta	P	10 ¹⁵	= 1,000,000,000,000,000
tera	T	10 ¹²	= 1,000,000,000,000
giga	G	10 ⁹	= 1,000,000,000
mega	M	10 ⁶	= 1,000,000
kilo	k	10 ³	= 1,000
hecto	h	10 ²	= 100
deca	da	10 ¹	= 10
(unity)	—	10 ⁰	= 1
deci	d	10 ⁻¹	= 0.1
centi	c	10 ⁻²	= 0.01
milli	m	10 ⁻³	= 0.001
micro	μ	10 ⁻⁶	= 0.000001
nano	n	10 ⁻⁹	= 0.000000001
pico	p	10 ⁻¹²	= 0.000000000001
femto	f	10 ⁻¹⁵	= 0.000000000000001
atto	a	10 ⁻¹⁸	= 0.000000000000000001

The next chart/graph is really for your knowledge to help better prepare your selection of capacitors in your next project.

Polystyrene: Capacitors of polystyrene dielectric, because of their low dielectric absorption and radio frequency losses, are intended primarily for use in calculators, computers, integrators, time-base oscillators, laboratory standards, and other pulse applications. The outstanding characteristics of these capacitors are low temperature coefficient and stability.

Polycarbonate: Capacitors of Polycarbonate dielectric are especially suited for use in tuned circuits and precision timing due to their capacitance stability and minimum capacitance change with temperature.

If you're stocking your building supplies for the long winter, you'll be interested in knowing what is standard and create a parts area for future use. The following values are standard components:

Silver Mica Capacitors Values (pF)

1	2	3	5	7	10	12	15	18	20
22	24	27	30	33	36	39	43	47	50
51	56	62	68	75	82	91	100	110	120
150	160	180	200	220	240	250	270	330	360
390	430	470	500	510	560	620	680	750	820
910	1000	1100	1200	1500	1600	1800	2000	2200	2400
2700	3000	3300	3900	4300	4700	5000	5100	5600	6200
6800	7500	8200							

Ceramic Disc Capacitors (pF)

3.3	5	6	6.8	8	10	12	15	18	20
22	24	25	27	30	33	39	47	50	51
56	68	75	82	100	120	130	150	180	200
220	240	250	270	300	330	360	390	400	470
500	510	560	600	680	750	820	910	1000	1200
1500	1800	2000	2500	2700	3000	3300	3900	4700	5000
5600	6800	8200	10000						

Polystyrene Capacitors (pF)

20	33	39	47	56	68	82	100	120	150
180	220	270	290	300	330	360	430	470	500
510	560	600	620	680	750	820	910	1000	1100
1200	1300	1500	1600	1800	2000	2200	2400	2700	3000
3300	3600	3900	4300	4700	5000	5100	5600	6200	6800
7500	8200	9100	10000	12000	15000	18000	19000	20000	22000
24000	25000								

When you're stocking up on parts, remember that capacitors have a shelf life, that is, don't think because you got a great deal on 100 electrolytic capacitors that the 'goodness' will be there permanently. They won't and capacitors do 'leak' there stamped values. What is worse is when you receive a kit from a company, or a bag of parts to build your next project only to find that the caps used were made 15 years ago. You won't know when they were processed and when your project fails, you'll blame yourself when all the while it was the cheap caps which were used. Fresh is in and homebrew will always work better if you keep that in your mind. I would like to see where some of the kit sellers get their components and how reliable they are when we use them. A lot of trash is for sale so, 'buyer beware'.

72's and 73's

Dennis Marandos - K1LGQ NE#151
Nashua, NH

Unprecedented Contest by New England QRP Club Herald By ALL!

September 17th, Saturday, will be marked by hundreds of QRP operators across the country, and throughout the DXCC countries as one of the greatest contest days ever. The New England QRP Club sponsored the first **AFIELD** Day QRP contest which still has hams across the country reeling with sheer delight. This is the first of a long stretch **AFIELD** Day contests sponsored by the Northeast club and will be looked up as the fore runner of all QRP'ing in this country. The following comments are from just a few of the many active operators during the contest:

QRP Afield Woes - Craig LaBarge WB3GCK

One of the things I enjoy the most about ham radio is operating QRP-portable. So, needless to say, I was pumped for this event. However, after weeks of planning and anticipation, my XYL took sick and we took a trip to the doctor instead.

So, I spent QRP Afield at the home QTH trying to contact all the stations I could hear and give out some points to those lucky folks who made it into the field. Those I worked include:

VE2DRB, KR4DR, AA1EX, NG1G, KX1E, AA4XX, WK8S, N1CUU, WA8LCZ, KA9HAO, W1FD, WA2BQL, N4ELM

My congratulations to you all. Everyone sounded great here in Pennsylvania, especially VE2DRB and KR4DR who were coming in loud and clear all afternoon.

Hopefully, with a little luck, I'll be able to join you out there next year. This is absolutely the neatest QRP operating event of the year! Just say NO to QRO!

73, Craig LaBarge WB3GCK

Chuck Adams K5FO

The question was asked and I answered where was I? We worked, most notably, W8LCZ, AA7QU, N6KR (worth the whole contest), K6FE, K6RPN, KI6SN, WB4ZKA, AA4XX, and KR4NR (the loudest on the 20M band) Where were you? I didn't hear a single W1, W2, or W3. The only W3 was WA3BHM in PA and he was QRO.

Chuck Adams K5FO CP-60

Randy Jones - KA9AHO

QRP-AFIELD to Ground!

I wish I had been so lucky! I arrived at the chosen site along the shore, just south of Wickford. I got my antenna set up, hooked up the Thirty-40 XVCr and started to attach the new G4PZY keyer. Guess what happened next? I forgot to bring the cable with mini plugs on each end! So, what the hell, I also had good sense to bring the Argo 515 and then I found out I didn't bring

the right power cord! Anyway, I packed it all back up, went home, and managed to work 15 stations on 40 meters with the Argo 515. Well, at least I had *planned* to go QRP A-FIELD! And, best of all, I didn't get drenched!

72's - Randy Jones - KA9HAO

First QRP AFIELD K5FO/5 by Chuck Adams

Saturday morning, I arose at 6 a.m. to begin preparation for the big event of the fall season - the much awaited first QRP **AFIELD**, sponsored by the NE QRP Club. You didn't think that I would start early for this thing did you?

First thing was to cut a dipole for 20 meters, since the plan was to operate a single band. So, out with the trusty **ARRL** handbook to see the formula for the length, and I cut a 33 foot length of wire with some left over. I stretched out the wire in the driveway (the sun is about to come up at this time) and cutaway. Got the RG-58U, random length about 40 feet or so, and two ceramic egg insulators for the ends and another for the middle of the dipole. Solder coax to center wires and add Radio Shack solderless PL-259 to the transmitter end of the antenna—but, I *do* solder the center wire. I just don't trust loose wires in a connector. Got the trusty multimeter to make sure that I haven't made a shorted piece of coax going nowhere in the RF world. Checks OK. I know that it will do me no good whatsoever to check where this thing is resonant until I get it into position at the field day site.

I went back into the house to eat French Toast for breakfast. While waiting for the sun I had made up a list of equipment and tools to take. Into the shack and round up the stuff and I put it on the floor and double check. Next, a canvas flight bag that AA had given away to VIP's at the World Cup opening here in Dallas and put all the parts but the XCVr in it. I put the stuff in the pickup and told the SO (significant other) that "I'm outta here" and off to Home Depot, and then to the field. She provided the card table and chairs for this event.

I got to Home Depot about 9 a.m. and got the four poles and two hose clamps I needed as supports for the antenna. More on this later. Back into the truck and off to the northern wilds of Dallas to the field. I get there about 10:15 CST, the same time as Wayne - W5WO, arrived there. We surveyed the site and decided upon a location where we got some shade from a 15 foot small silver leaf maple tree. It was perfect. We had some other small trees spaced out about 60 feet or so to attach the support poles.

The site we picked was Breckenridge Park in north Dallas, which is in the 'Burbs known as Plano, TX. It's a large park with soccer fields, large roller blade and walking paths, rolling hills and large golf course (All these secondary attractions if conditions on the bands are really bad). We set up the card table and three folding chairs that I had brought. Setup Ten-Tec Argosy with MFJ Deluxe Electronic Keyer and MFJ Chrome Iambic paddle. I removed the battery from the truck, thus disabling it and later preventing me from running off to get something to eat (nice diet program), and attached it to the rig.

We then proceeded to set up the dipole and for this I think that I came up with a relatively neat and inexpensive way to do this. I bought four 3/4 inch conduit 10 foot sections at

Home Depot for the paltry sum of \$1.95 each and the two coupling sections for about 79¢, which have two set screws to lock the two sections together. I joined the conduit to make two 20 foot poles and used the two hose clamps (1 inch) for another \$1.50, or so, to attach two wire loops at the top of the poles for running rope through to raise and lower dipole and adjust tension. The same loop also was used for guy rope (400 pound test nylon stuff). We tied the poles to two trees with a foot of wire, thus making up the temporary antenna and not damaging trees in any manner. We now had our antenna up. This took about 20 minutes and here it is, the start of the contest and we aren't going to make it on time, but hey, "chilled out" - let's have fun and don't get ourselves into a tizzy" kind of event. Dipole is setup in what we think is a northeast direction. This is a NE sponsored contest!

Out with the battery powered MFJ SWR analyzer and I checked the SWR without having to power up the rig. Oooops! Resonant at 13.750 MHz. I don't think we want to work down there. SWR above 3:1 at 14.060, so I quickly lower the antenna and I guessed at about 6 inches on each end and we put the antenna back up. Lucky guess as now SWR at 1.2 or less for ENTIRE 20 meter band! This is it. Power output set at 0.95 watts out with OHR WM-1 watt meter into dummy load.

By this time, it's 25 minutes late into the contest, but hey, no pressure here. We fire up the rig and WOW, there are signals on the band. So out with the pen and paper (no real logs here), but Wayne brings out a ruler and makes lines for me to write on (reminded me of the Big Chief tablets) and we're off.

First contact was North Dakota at 1627 Z. Wow, this setup is really working. It's now 30 minutes into the test. With K5FO at the helm and W5WO at the helm later, we racked up 20 QSO's with 10 states for a total of 1,600 points in less than 3 hours of operating. We kept working 6's in CA and "rotated" the dipole a little more to the north to see if we could get anyone in the East, but still CA was major source of signals. Wayne worked N6KR with N6ULU at the helm about an hour and a half into the contest. WB4ZKA, Mike, in Mesa AZ called me by name, as did several others during the test. Fastest QSO was with AA4XX, who was running 900 mW. Band was up and down, but not too bad.

Larry Jones, N5OSG, showed up about an hour into the test, due to other commitments, and gave us support as we hunkered down in the sweltering Texas sun. It was truly a miracle that it was a clear day without a single cloud in the sky. A cold front had moved through during the night and the temperature was in the upper 70's with a nice 20 MPH breeze for the whole time. A perfect day and a welcome relief from the hot summer we had been having and still could be having here in Texas and the rain that was predicted several days before.

Three hours into operating, with time to rotate dipole, we decided to call it a day. We kept hearing the same stations. The digital stations kept moving down to 7.055 MHz and I did work one mobile station on the County Hunters Net (CHN) on 14.055 MHz. Hey, if you can't fight 'em, join 'em. I did manage to get a slight UV dose, but nothing serious.

I was surprised that we did not hear a single station northeast of PA, and the PA was the last contact we made. We worked ND, FL, WI, CA, MI, OR, UT, AZ, NC, and PA for states. I was also interested in the fact that we seemed to work some stations from what seemed to be the ends of the dipole,

but the exact heading was unknown due to orientation of nearby landmarks. Next year I'll bring a compass. Solar direction didn't help that much.

Summary: 20 QSO's x 8 pts./QSO x 10 states = 1,600 points. Average QSO rate 9 minutes per. Operators: K5FO and W5WO and N5OSG (about 2.6 hours time). QTH: Breckenridge Park, Plano. Transceiver Argosy 0.95W out. 20M dipole, Keyer(K5FO) and Vibroplex Bug (W5WO)

My award for the year is to the NE QRP Club for sponsoring the event. It's a perfect time (at least this year it was) for FD. No Texas heat and no crowded bands with 100W rigs pounding away at the receiver front end every 200 Hz. If necessary, I will sponsor the trophy each year, but will let others take the honors to further the continuance of this contest. To the management and staff and sponsors at the QRP Club of New England - thanks a million gang.

From the Plains of Texas - respectively submitted, 72's
Chuck Adams K5FO CP-60

QRP AFIELD Jim Fitton - W1FMR

I think you could hang your temporary antenna over any natural or existing structure, or erect an unnatural one. If I operated from the coast where there are no natural structures, I might tie the dipole to a radar reflector tower located out on a jetty, or a bridge over a river. Or perhaps in the desert I would throw my antenna over the roof of a barn if I found one, or use my Butternut vertical by the side of the road.

However, I don't think I would feel right about hoisting a new dipole up my tower (if I had one), but would definitely use the trees in my yard. If I stayed home. I think the idea is to have as much fun as possible, while staying within the spirit of portable (temporary) operation.

Jim Fitton - W1FMR

Terrific contest.

W1FMR/1 and N1CUU/1 handed out 48 QSO's and stations were worked in Puerto Rico (KP4DDB/QRP), Texas, Washington St., Ore., and Canada. Where was K5FO, N6KR, KI6DS? W1FMR/1 contacted N1CUU/1 on 40m although he was more than 50 ft. away, sharing the same antenna support, and running 2 watts also. Does this qualify us for the coveted 1000 watts/mile award? In addition, W1FMR/1 made 27 contacts with 17 multipliers.

QRP-NE Recommendation:

When there is more than 1 operator available, set up at least 2 stations and each operator can use his own call. Not only would there be more stations on the air, but when things get dry you can contact each other.

Thanks to Chet Bowles, AA1EX for running this contest! Also, thanks to K5FO for donating the high score trophy. And thanks to all the clubs that supported this event. It was much greater than any expectation of QRP-NE. This seems to be what you folks wanted.

Be sure to forward your logs to Chet, along with your comments, photos, and tall tales. What did you like about the event?

72 - Jim Fitton - W1FMR

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**Chester Bowles AA1EX**

I'm really looking forward to the QRP AFIELD event. I'm doing a presentation in Bedford, NH tomorrow. When I'm finished, I'll head up to our cabin in Rangeley, ME. Saturday morning, I'll erect my 80M dipole and (hopefully) be ready for the start of the contest. Hope we connect so I can give you that "rare" ME multiplier. I've heard a tentative forecast which calls for thunderstorms late Saturday afternoon. Hope they're wrong. Have a great weekend, and "break a leg."

**Chet - AA1EX**

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Glenn - KK6ZC

This QRP AFIELD was my first portable effort with my NorCal 40. I didn't make a lot of QSO's, in fact, NONE with another QRP station, but I did have a great learning experience. I was up 7500 feet near Blue Lakes, south of Lake Tahoe. I discovered that getting a dipole into the pine trees, while simple in principle, is in actuality more difficult than I imagined. The #4 test fishing line on my ultra-light spinning reel didn't help either! I finally got set up and listened for 'QRP TEST'. When nothing was heard I sent out my own CQ, and got a reply after the first one! Unfortunately he was not QRP, and just wanted a rag chew, but I was happy for any reply. So, that was how it went, no QRP QSO's but several contacts. I did hear Jim - AB6MB in his previously mentioned QSO with KB6OB, but when I called them after their QSO, there was no reply. I missed my chance for an Internet Mailing List QSO! I've got everything ready to go now, so I'll be QRP portable for at least a few more weekends until the weather gets cold!

72 de Glenn - KK6ZC

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**QRP AFIELD PORTLAND, MAINE - Bob - KX1E**

Well, I didn't exactly get AFIELD, but I got a shack for the first time in months. I spent about an hour and a half between 1600 and 2000, almost entirely on 40 and made 18 or 19 contacts in about 10 states/provinces. This contest is a good idea, and allowing home QTH operation is a plus.

**72, Bob, KX1E**

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Jim - W1FMR/1 and Carl - N1CUU/1 went to the shore to operate QRP AFIELD

We set up 2 QRP stations and picked the site just moments before the contest. The original site in NH was controlled by some B#S&H who wanted to charge us to park our car, and tell us where to park when there were only 3 cars in the whole D#3# parking lot! Can you tell I was mad? There must be much more inbreeding going on in that town than is generally realized. Of course having a nearby nuclear reactor may alter the remaining good genes. Al Capp used to get inspiration for "Little Abner", a cartoon strip, from that town.

The alternate QRP-AFIELD site selected was much prettier anyway, except for the fact it was in Tax'achusetts, but

we got out before they could tax our QRP operation. The site was located in Salisbury Massachusetts on a pretty rock jetty, in the mouth of a tidal river outlet to the Atlantic ocean. The antenna support was a large wooden cone-shaped marine channel marker and radar reflector. The top is about 40 feet above the low tide water mark and there was not a tree or bush within miles of the site.

The temperature was a freaky warm day for New England. A strong wind was blowing from the north and it was overcast and very warm, about 85 Fahrenheit. It is hard to hear stations on the NC-40 when the wind blows that hard. I keep meaning to do something about that.

The 40 meter station was an NC-40 and HW-9 located on a folding table and lawn chair on the beach. Carl was in charge of that luxurious set-up. The river view was terrific. The last time I visited that location, an attractive woman was swimming with a dog (animal). When she got out of the water she was clad only in shorts and a tee shirt. I nearly inhaled a mouthful of sand. Of course, that had nothing to do with choosing that site. At least, that is what Carl says. We ran a long wire to the top and down one side of the channel marker and that worked extremely well for 40meters. Stations, especially WJTS/QRP, (how does he do it?) were booming in.

The 20 meter station was an ARGO-509 located directly under the channel marker, and the antenna was a poor, intermittent, specimen of a butternut vertical, lashed to the outside of the marker. I forgot to bring a coaxial barrel connector and the cable to the vertical was so short I had to climb inside the cone shaped channel marker and didn't notice that I was sitting in warm, soft tar. I watched boats fishing in the river. It was beautiful, but when I tried to get up, I was stuck. Nearby big boats caused much ignition noise, and the 40 meter station provided ample QRM and key clicks.

About 4 hours into the contest, a thunder and lightning storm came up and drenched us completely. Because we were having so much fun, we dismantled the station too late, and got thoroughly drenched. Please, next time make a contest that is less exciting.

QRP-AFIELD #1 Sept. 17, 1994

QTH: - Massachusetts

XMT PWR: - 2W,

RIG: NC-40, HW-9, ARGO-509

ANT: - Long Wire, VERTICAL.

POWER: - 12V BATTERY

Jim Fitton - W1FMR

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**QRP AFLOOD**

**Jim - N0OCT**

It was a pleasure working you on Saturday. Sorry, fist was a bit rough, but I don't get much time to operate anymore. You had the biggest signal I heard on 20 (must have been the saltwater or the promise of wet T-shirts!).

The St. Louis QRP group had a good time, and will definitely operate this one next year! This was my first QRP contest, and really enjoyed it. As soon as I get that radio completed (with the crystals you sent me) I'll drop a schematic into the mail. I get about 40 KHz of swing--not too bad!

~~~~~  
72' Jim - N0OCT

QRP Afield Report

Saturday morning things looked bad for a field trip with heavy rain showers in the east Tennessee area, so preparations were put on hold. The rain stopped in the afternoon with more rain forecast later in the day. My XYL and I loaded up the car and drove to the Look Rock Picnic Area on Chilhowee Mountain near the Look Rock Scenic Overlook at approximately 3000 feet at sea level. The area is accessible from the southern part of the foothills parkway that winds along the border of the Smoky Mountains National Park near Cades Cove.

Because of the earlier rain and more forecast, we had the whole area to ourselves. With the cool mist from low clouds winding through the trees, speckled with shafts of sunlight through the leafed canopy, the area looked like a scene out of the enchanted forest. The only noise was the rush of the wind through the dense foliage, the gentle creak of the tall oaks, and yellow acorns the size of pecans falling on to the thick spongy carpet of rain soaked leaves.

I picked out a concrete picnic table strategically located near three small trees. I used the little ARK 4, a Gel Cel, and the 3 dB pad (ugh!) antenna (RG174 and 24 ga. speaker wire) up about 15 feet into the trees as an inverted Vee. We had everything set up and ready by 19:00 Z. While my better half read her novel, I eagerly jumped into the fray, straining to hear far away stations, and sending out feeble CQ QRP Test's. After working about 19 stations with 10 multipliers, we noticed the sky darkening and the wind stiffening. I wanted so badly to get that 20th station and fill up my log sheet. My persistence was rewarded by working NG1G (NE#2) as the 20th contact. Not bad for a good ending to a great field trip. I signed off at 21:30Z and began to pack up.

No sooner did we close the car doors and start the engine, when the rain hit again. As we started back down the mountain, the sky opened up. The rain became so heavy that driving was difficult. Thinking back, it was good luck working NG1G as the last station and finishing the log sheet when I did. A few more minutes lingering and we would have been soaked.

A couple of notes to myself regarding next year's event: First, I need a 20 meter QRP XCVR, and have my 20/40 QRP folded dipole cooking by then. Second, the mountain mist was so heavy, it took all the starch out of the log paper. Next year, use card stock. I can only hope that the weather and the mountain will be so cooperative as this year. Final accounting: 20 stations and 11 multipliers.

72/73, C. C. (Clay) Wynn N4AOX

Wrap-UP

Needless to say, the New England QRP Club will sponsor this contest next year, but the competition will be even keener. Sharpen your antenna and aim for some high scores. but there will be a lot of others who will be on the QRP circuit looking for your contact. Send in your reports to Chet - AA1XE and comment on what your ideas of the contest were and what you might like to see in the future. Perhaps, this contest could be made into a 24 hour sport.

When someone asks you
how come you know so
much...say you read it in **72**.

Kits STILL Available

If you're still undecided about building New England QRP's second project, rest your mind. Kits are still available from Dave Benson as a direct order. Write to him and specify your request...either 30 meters or 40 meters. Join the many hams across the country who have built this exceptional superhetrodyn transceiver and put the Thirty-40 and Forty-40 as one of the top three rigs in your shack.

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

The kits sells for 40 dollars, but you need to add \$1 shipping and handling.

New England ARRL Convention October 2 and 3, 1994

When you read this part of **72**, you'll have the time to go to the ARRL convention in Boxboro, MA. You're probably like a lot of other hams who just sometimes forgets and when you remember what you're supposed to...it's gone by. Let's hope this will remind you to visit the QRP Forum at the convention and hear two, or more, of the greatest QRP'ers in the Eastern area. Randy Rand - AA2U and Dave Benson NN1G will be featured speakers and will present topics on DX'ing QRP and designing the Forty-40, respectively.

The next issue of **72** will be in January 1995 and that scares me because there are so many family gatherings, holidays and small parties we forget to send fun items to the editors. Keep this in mind and mail early, or perhaps a Christmas card to say you're having fun on the air. Keep in touch...! Have a lot of fun during the holidays

K1LGQ - Dennis Marando
Editor **72**