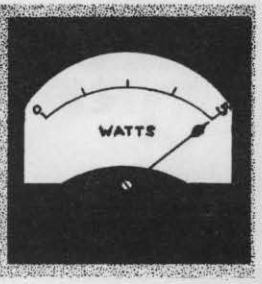
QRP QUARTERLY



Journal of the QRP Amateur Radio Club Int'l. July 1981 Vol. 19, No. 3

THE PRESIDENT'S FORUM

By Tom Davis - K8IF
QRP ARCI President

In this issue of QRP Quarterly, you will find nominations for the club board of directors. Please take a few minutes to read the nominees' statements and cast your vote. Then return the ballot to the secretary-treasurer by the deadline he has described on Page 14. It was a pleasure to note the response during the last board election. Let's see if we can duplicate, if not surpass, that turn-out! It is your active participation in these elections that determines the direction taken by the club.

Many of you who operated during the April QSP Party had a good time, I'm sure. Despite so-so conditions, many of you demonstrated the ambition and ability to make QSOs with DX stations, even though both of you were at noise level! This experience is an exciting moment for both stations, of course. And such tenacity is a fundamental characteristic of a QRPer. This is what sets him or her apart from the rest of the crowd! The predictability of these chance QSOs is naturally quite low. And the opportunity for their occurance is reduced by the fact that DX participation in our QSO parties (based on logs submitted) is quite small.

I've been concerned about this and believe that in part the problem lies with the club's old image with our QRP friends abroad. You might consider these questions: What is to be gained by publicizing a QRP contest that has QRO multipliers? What purpose in QRP philosophy could exist in participating in such a contest?

It wouldn't suprise me if those questions were asked in Europe, for instance! But our old image is history. It should change for the better following the changes in club policy that took effect at the beginning of the year. Meanwhile, our contest chairman and publicity officer are cooking up great things for the October QSO Party, which incidentally marks our 20th anniversary! Becoming interested? Well, how about a world-wide QRP contest based on international QRP standards? Something like this could happen, and we believe it is something certainly worth supporting. I suppose it starts by our participation in DX QRP club contests and events. Perhaps then, DX stations will take more of an interest in us.

Those who attended the QRP forum at the Dayton Hamvention this year were indeed fortunate. Those who could not be there -- sorry, but you missed something! We had a comfortable turnout at the club's hospitality room, which gave members a chance to eyeball their cohorts, swap stories, relax, and compare notes. When one has the opportunity to meet someone they've worked, it is one of the finest moments in Amateur Radio, which we, too infrequently, enjoy.

Enter the forum. Red Reynolds, K5VOL, set the stage with his explanation of QRP nets, procedures, and changes. Then he awarded WD9EGW a net QNI certificate. Bill Dickerson, WA2JOC, gave his DX presentation, which included informative tips on QRP DX techniques.

Then, from the days of "Editorial Lucubrations" and "The Milliwatt" stepped Ade Weiss, WØRSP. For the faithful followers of his column in CQ Magazine, those words on a page came to life. Those who have worked or talked to Ade before finally got to place a name and personality with the call.

As he opened with excerpts from his upcoming book, most of us wondered what we were about to hear, and why. WHAT became quite clear as he took us back to the early days of QRP, vividly describing history-making QRP QSOs by pioneers of our hobby.

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QRP Quarterly is the official journal of the QRP Amateur Radio Club International, Inc., and is published four times a year: January, April, July, and October. The QRP ARCI is a non-profit amateur radio organization dedicated to increasing worldwide enjoyment of QRP operation and experimentation (QRP, as defined by the club, is 5 watts output CW, 10 watts output PEP). Members agree to voluntarily limit their transmitter power to 50 watts output CW, 100 watts output PEP, except for public service work, where higher power may be necessary. Current club membership 4861, QRP Quarterly circulation 662.

Initial membership fee of $4 ($5 for DX applicants) covers lifetime membership plus first four issues of the QRP Quarterly. Membership information is available from the secretary-treasurer (see roster below). Subscription renewals are $3 ($4 for DX subscribers) for four issues. Expiration notice appears in red (rubber stamped) on the mailing cover of final issue. Expiration date also appears on mailing label, following QRP number: i.e. 4174-4/81 means member 4174's subscription expires with October issue, 1981 (or fourth quarter 1981). Renewals must be received by editor by the 15th day of the month prior to month of publication for continous service. Otherwise renewal begins with the next issue. Send renewal notices, changes in call, or address changes to the editor (see roster below). PLEASE MAKE ALL CHECKS OR MONEY ORDERS PAYABLE TO: QRP Amateur Radio Club International Inc. PLEASE DO NOT SEND CASH. New members will receive first issue following receipt of their application provided it is received at least 15 days prior to month of publication. Otherwise, their subscription begins with the next issue.

Letters to the editor are welcome. Not every letter can be published, and the editor reserves the right to edit letters to conform to space limitations. Those desiring a reponse from the editor, officers, and directors should enclose an SASE with their letter. Construction projects or articles of general interest are always welcome. Manuscripts should be typed, double space, and all circuit diagrams should be clear and include all parts values. The editor and club are not responsible for testing projects that appear in this publication. Please include name, call, and phone number on all manuscripts and mail to the editor.

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In detail he continued by telling us of the contrast in attitudes toward QRP between those days and today by the general Amateur community. He highlighted the significance of QRP then, especially regarding experimentation, as well as the state of technology then, and the degree of homebrewing. The WHY then hit me as I drifted from the speaker's voice and asked myself, "What is QRP offering today? Are we just becoming an Argonaut or HW-8 fan club? Doesn't anyone build anymore? What's happening to QRP homebrewing now?" I was awakened from this line of thought by a man asking where Room 4 was. I noticed that time had passed, and Ade already was into his question-and-answer period.

The questions were many, and his answers were clear and accurate, unlike the wordy explanations we get in some amateur publications. We could have gone on for an hour! But all too soon, our time had expired. Ade closed by reminding us that "those frequencies on that banner are calling frequencies. Call CQ QRP on them, don't just listen!" All I could do was smile and shake my head, thinking that all the harping about club frequencies was summed up so quickly and with genuine and concerned impact.

Though the days of the Milliwatt have passed, and though nothing can match an original, the spirit of QRP is alive and well in WØRSP. No, Ade hasn't changed! We are indeed fortunate to have an individual so dedicated to the QRP cause! As we shuffled out from our forum, some feeling a little guilty perhaps, we left with a sense of meaning, of direction. The arena may have been filled with flashing LEDs, shiney new nine-band, multimode transceivers and a battalion of unsquelched 2 meter HTs as we departed, but most of us left impressed -- and rightfully so!

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THE EDITOR'S SOAPBOX

By Peter N. Spotts - N1ABS
QRP Quarterly Editor

How often have you heard the claim that QRPers generate less QRM than their QRO counterparts? This position is implied in the oft-asked question, "Why don't those QRO ops turn down the power so we can have more room on the band?"

Before we are tempted to take off after the high power operators, let's consider a few points:

1. A QRO signal does not inherently occupy any more bandwidth than a QRP signal, given clean keying and the same rate of code speed. Why? Because a CW signal's bandwidth is determined by the information rate, not the rig's power. If a rig's keying circuit gives the keyed signal a 5 millisecond "rise" time (from off to on) and a 5 millisecond "decay" time (from on to off), an operator can, at least in theory, send at 120 words per minute and occupy no more than 100 Hz of the band. That's no typographical error, it's 100 Hz. Sending at 12 words per minute, which corresponds to an information rate of 5 Hz, yields a bandwidth of 10 Hz, theoretically. (See Amateur Radio Handbook, ARRL, 1981.)

Then, you might ask, how come I can hear some signals up to 3 or 4 or more KHz off their zero beat? The answer may lie not with the other guy, but with your receiver. Sound familiar? Well, it's something akin to the RFI problem we sometimes encounter with our neighbors. Assuming a clean signal at the antenna, the trouble lies in the

(Please turn to Page 17)

QRP Quarters

You can tell that as Editor, I'm running low on shacks to display in this column because I had to use mine! Starting with the bottom shelf (from left to right) I have my homebrew power supply, speaker cabinet, and a homebrew station console consisting of a digital clock, an ID timer, and an SWR meter. On the second shelf, some what less densely populated, are my keyer (built around the Curtiss 8043 keyer chip) and a wattmeter/dummy load a lá Ade Weiss in the January issue of the QRP Quarterly. On the top shelf, I have my Midland 220 rig and Heathkit 2 meter rig, a homebrew transmatch on top of which sits station mascot Bruce Springsteen, and my Argonaut, along with its calibrator and CW filter.

Please folks! You don't want to see yet another picture of me in this spot next issue. So send me a clear black-and-white photo of you at your radio, along with a description of what appears in the photo. Many of our members enjoy seeing those with whom they have chatted on the air. So for Pete's sake (no pun intended)! Dust off those cameras and get your acts together! Send your photo to the Editor. See Page 2 for my address.

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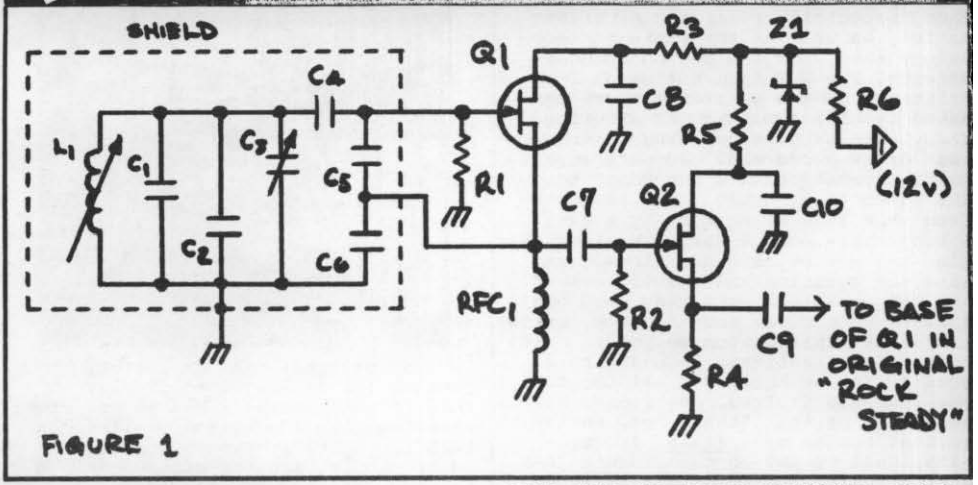

FIGURE 1

VFO FOR ROCK STEADY

By Tom Davis - K8IF

The QRP variable crystal oscillator or transceiver in the April issue of QRP Quarterly was primarily designed as a portable crystal rig. As an afterthought, rockbound operation might not be everyone's cup of tea -- especially if you don't have crystals! So this simple VFO came to mind.

The circuit in figure 1 is a basic Colpitts FET oscillator with a source-follower buffer stage. The circuit replaces the crystals and tapped inductor connected to the base of the oscillator transistor (Q1) in the original Rock Steady. The output from the VFO is coupled to the base of Rock Steady Q1 through C9. Subsequent amplification follows, allowing similar operation as in the original form of Rock Steady.

A regulated supply of 8.2 volts is used for stable operation (Z1, R6). Because battery operation was also desired, an 8.2 volt supply was chosen as the regulated supply to the VFO. The battery voltage of a rechargeable gel cell pack ranged from 10 to 13 volts, depending on its charge. So a reliable reference voltage, less than the minimum observed on the battery, was needed.

L1 and C3 (main tuning) set the frequency of operation and the tuning range. With C3 set at maximum capacitance, adjust L1 for the bottom of the band at 7 Mhz. Then check the tuning range. The top end (at minimum capacitance) should be approximately 125 Khz higher.

Shielding is used to isolate the VFO from the transmitter. Shielding also aids frequency stability, which is subject to surrounding fields and temperature changes. No printed circuit information is available for this VFO. My version is mounted on a 1"x2" piece of perf board. It fits easily into the Rock Steady cabinet after the crystals are removed.

VFO parts list:

C1 - 22 pf. silver mica or polystyrene NPO
C2, 4, 6, 7, 9 - 230 pf. silver mica
C3 - 4-40 pf. variable
C5 - 470 pf. silver mica
C8, 10 - .01 µf disc ceramic
R1, 2 - 47k, ¼ watt
R3, 5 - 100 ohm, ½ watt
R4 - 1k, ¼ watt
R6 - 180 ohm, ½ watt
RFC1 - 100 µh
Z1 - 8.2 volt, 1 watt zener diode
Q1, 1 - 2N5486
L1 - 15 turns, no. 26 wire on ¼ inch, slug-tuned form

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MILLIWATTS FROM AN ARGONAUT

By Chris Page - G4BUE

A few years ago, I never would have dreamt of using less than 150 watts D.C. or 400 watts PEP, as the case may be, as I sought to add new countries to my DXCC or took part in the many contests I entered. Although I've retained my interest in DXCC (260 confirmed) and contests, I've now added QRP to my interests.

Since August 1976, when I started using QRP rigs, I've progressed via an HW-7 and HW-8 to an Argonaut, which gives 5 watts input on 80-10 meters. During that time, I obtained QRPp DXCC No. 8, issued by CQ magazine, and

I was wondering what to do with all my spare time now that the 100th QSL card had arrived. Then I read an article in Sprat (the G-QRP Club newsletter) by Brice Anderson, W9PNE, entitled "Intercontinental QRP QSOs Using Milliwatts." "The guy must be mad," I thought.

His article caught my imagination, and because CQ magazine also offered a milliwatt DXCC (1 watt or less input), I decided to see if the idea of working DXCC with milliwatts was possible. The QRP final described by Brice was studied. But I decided to retain the use of my Argonaut, and used it with reduced drive, as long as it remained stable. I chose this course for two reasons: I had only purchased the Argonaut a few months previously, and unless I used it, I could see it gathering dust as I plugged away with milliwatts; and although I love building projects, I love operating even more!

A check of the Argonaut's circuit revealed that the RF board (80185) receives its 12-volt line via L1. I decided to break the line after L1 and insert two accurate meters to measure current to the PA. The Argonaut has no way of measuring current in the rig's standard form.

I decided to install two meters, a 1 amp and a 100 ma, in a separate cabinet. I designed it so the 100 ma meter could be switched in or out of the line, depending on the power I intended to use. In addition, I fixed a large red panel lamp adjacent to the meters. The lamp lights when the 100 ma meter is switched into the circuit. This is to act as a reminder in case I should revert to using the Argonaut with its full 5 watts without switching out the 100 ma meter.

The existing wires attached to the rear of the "Rec. Ant." and the "Aux." sockets on the rear of the Argonaut were disconnected. These sockets were to act as the vehicles for getting the 12-volt line out of the Argonaut and back again to the PA without drilling any holes in the cabinet. The wire attached to the 12-volt pin of the RF board is disconnected, and reconnected so that one end of L1 is attached to the board and the other to the rear of the "Rec. Ant." socket. This is to act as the return of the 12-volt line from the meters. The 12-volt line inside the Argonaut is then connected to the rear of the "Aux." socket, and the capacitor C6 connected between the socket and ground. On the rear of the meter cabinet are mounted two sockets to accept the two wires from the Argonaut, and two suitable leads are made. A jump lead also was made to fit between the two sockets on the rear of the Argonaut to bypass the meters, should the Argonaut be required for mobile or portable use.

The voltage was then checked and found to be exactly 12 volts on load. The following figures were calculated assuming an input voltage of 12 volts to the PA:

5 watts input	=	416.7 ma
1 watt input	=	83.3 ma
750 mw input	=	62.5 ma
500 mw input	=	41.7 ma
350 mw input	=	29.2 ma
250 mw input	=	20.8 ma
150 mw input	=	12.5 ma

It is not possible to measure current much below 12.5 ma because the standing current of the Argonaut is 10 ma. The Argonaut's manual states that if the drive control is increased until the SWR meter indicates full scale in the forward position, this will correspond exactly to an input of 5 watts. This was checked on all bands and found to coincide exactly with an input of 417 ma on my external meter. I then reduced to zero the drive, switched in the 100 ma meter, and advanced the drive until a current of 41 ma was indicated. I was ready to see what a 500 mw input could achieve. But before trying it, I check to see how much was indicated on the Argonaut's SWR bridge at this power level - nothing! When using an input of 1 watt (83 ma), the SWR bridge just flickered. I just couldn't see how such a small amount of RF -- that didn't even register on the bridge -- could be capable of maintaining a QSO.

The moment had come to try what Brice calls "milliwatt DX." I tuned to 21 Mhz, and there was an SP station calling CQ. With a swing of the beam to the east and a SP2ZHB/2 de G4BUE QRP pse, he came straight back and gave me 589! Wow! I couldn't believe it, and I had to check that I really was using only 500 mw. There then followed a UB5 who gave me a 559, and then after lunch, WA2PJG gave me 559. This showed me that milliwatt DXCC was possible. There and then I set my next target of DXCC using an input of 1 watt or less.

The next day, after work, I was back on 21 Mhz, and there was HH2MC warming up for the CQ WW Contest by giving out a few contacts to some Europeans. There was quite a pile-up on him, but if I was going to work 100 countries, I would have to get used to the odd pile-up. Check the beam heading west, adjust the drive for 83 ma, and go! The third call he came back to me and gave me 539. Haiti on 1 watt: not only a good country for my milliwatt DXCC, but a new country for me on QRP.

During the next few days, I got used to having QSOs without any reading on the Argonaut's SWR bridge. But I began to wonder what could be done with an input of only 150 mw. Would the Argonaut remain stable at that level? A search of the band found HA1KSA calling CQ on 14 Mhz. A short call and a couple of minutes later I had 569 in the log for my first 150 mw

QSO.

During the following weeks, I used milliwatt power almost exclusively. And Brice is correct when he says that switching back to 5 watts is like switching back to QRO. By now, I was beginning to get very ambitious and was wondering how far 150 mw could get me. The ARRL 28 Mhz contest on Dec. 10 gave me an opportunity to find out. With many W stations calling CQ Test, I could call them at different power levels and compare results. By the end of the afternoon, I had worked a W1 at 350 mw, a W2 at 250 mw, and another W2 at 150 mw. I took no notice of the 599 reports I received. But my call sign was copied correctly, and they copied their reports.

Although by far the majority of the QSOs at G4BUE are on CW, I find SSB useful for picking up the odd new country. By using the 1 amp meter, I found I was able to measure 1 watt PEP reasonably accurately -- but not lower levels. Therefore, I only use CW at power levels below 1 watt.

Just two months after starting milliwatt DX, I had obtained the following totals:

POWER	CONTINENTS	COUNTRIES
1 w	4	51
750 mw	3	19
500 mw	3	17
350 mw	2	12
250 mw	3	9
150 mw	2	7

I have found that the two secrets of milliwatt DX are to send absolutely perfect CW, whether at 12 or 30 WPM, and to have a perfectly tuned and matched antenna system. I agree that the four-element trap beam that I use, at 35 feet, certainly helps. But I have spent many hours adjusting the elements to get the best possible match on my favorite part of each band. The feed line is RG8U, and it is as short as possible and has no gadgets between the antenna and the Argonaut, unlike my QRO line, which has an SWR bridge, low pass filter, and antenna switches, etc.

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HOW TO FEED A FLAT-TOP

By C.F. Rockey - W9SCH

Last issue, I discussed the merits of the shortened dipole, and noted that you can't beat an open-wire feedline to make the flat-top work like a charm.

Once upon a time, every good amateur knew how to make an open-wire line. But fashions change, and the coax cable hucksters have been busy. So many young hams are unaware of this honorable art that I have found so well worth knowing.

The classical technique is as follows:

Obtain sufficient 3/8" diameter dowel to make enough spreaders. "enough" is a matter of opinion, but I believe that spreaders should be spaced every 2 feet along the line. How far should the wires be separated? Again, this is a matter of opinion. But it is not a critical matter as long as the wires are parallel. I like about 6 inches between wires. But any spacing between about 2 and 12 inches will suffice because the line will be tuned. (Remember Aunt Minie's Neutrodyne?)

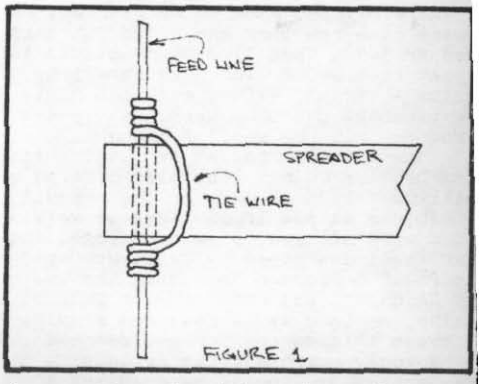

FIGURE 1

Get an old saucepan from the lady of the house -- or a cheap new one from the hardware store -- and put into it enough wax to fill it about half full when melted. Any kind of wax probably will do. Old candle stubs are great! (There is a legend that stubs from a church altar convey a special communicative virtue, but who knows?) If no candles are available, purchase paraffin wax from any well-stocked grocery store. Melt the wax SLOWLY -- DO NOT allow it to smoke appreciably because it might "torch off." (Burning wax makes a terribly destructive fire.)

While the wax is melting -- keep your eye on it -- drill a hole through each end of every spreader to pass the line wire through. The holes should be about 3/8 of an inch from each end and should be about 3/16 inch in diameter.

When the wax has melted -- just below the smoking temperature -- hook a piece of wire through one hole of a spreader and dip it into the seething wax. It will bubble and fizz until the hot wax has vaporized and displaced all of the moisture in the wood. When the bubbling stops, withdraw the spreader and let the wax cool and harden. Repeat this process for each spreader. If you want a low loss, long lasting line, do not rush this process!

Once all the spreaders have cooled, string them on the line wires. Number 12 (B&S guage) enamelled copper wire is probably best, but No. 14 will do very well. If you can't get this kind of wire, No. 14 "house wiring" wire will do just as well -- the insulation will do no harm. It will help to stretch the wires at their approximate

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RIGGED FOR SILENT KEYING

By John P. McNeil - WA2KSM

I suppose we've all heard this familiar song at one time or another: "John, are you going to spend all your time in that radio room?!?"

Being part of the family is important, so I decided to move my operation into the living room. I brought my HW-8 out of retirement, ran coax under the baseboard heater, and loaded up (figuratively speaking) my coffee cup. I took my usual position on the recliner, extended the leg rest, and settled back for an evening's worth of operation. With the key, headphone, antenna, and batteries in their proper places, I started to listen across the band for a CQ. Success came shortly, and I readied myself to return the call.

However, when I started to call the other station, howls and cries came from my wife and children. The rig's antenna relay was clicking, causing an annoyance that would not be tolerated. I was pointed toward my radio room like a dog that has messed up a new rug and is sent outdoors with its tail between its legs.

As they say, "Necessity is the mother of invention." So out of necessity I started inventing. The result is the circuit in figure 1, Page 8. I replaced the antenna relay RY1 with an electronic transmit-receive (TR) switch. The circuit is a diode switch. During reception, diodes D1 and D2 are forward biased, and D3 is reverse biased. The received signals will pass through without being impaired. During transmission, D1 and D2 are reverse biased, blocking the transmitted sine wave. D3, added insurance, becomes forward biased to pass to ground any RF that might try to sneak through. D4 and D5 are placed back-to-back, the third insurance factor should the other safety devices fail to protect the receiver.

Transistor Q1 is a switch to ensure proper bias voltage swing on the diodes. During reception, about 2 volts is applied to the anodes of D1 and D2 and the cathode of D3. During transmit, the anodes of D1 and D2 are at ground, while the cathodes are at 12 volts. This ensures complete reverse bias while D3 is hard on during keying.

The circuit should not be difficult to build, even for the inexperienced amateur. I used vector board and push-in terminals, plus components from Radio Shack and Circuit Specialists, Box 3047, Scottsdale, AZ 85257. The RF chokes are "Micro Mite" molded coils. I used the series 9310, Miller 9310-40. This is a 15 uh choke with a Q of 65 at 2.5 Mhz. You also can make your own chokes out of ferrite beads, but make sure the Q is sufficiently large so that output absorption doesn't take place.

Installation requires the drilling of a single hole in the HW-8 unit. I mounted the TR switch in the same manner as the AF amplifier circuit board, using a one-inch metal stand-off. On the HW-8 itself, refer to the instruction manual for directions on how to remove the top and bottom chassis plates, which exposes the printed circuit and component sides of the rig.

I recommend that you buy a roll of desoldering braid (RS 64-2090). This will make your work a lot easier when it comes time to remove the antenna relay and change other components.

Remove RY1. Then from the foil side of the board, install a ½ watt, 270 ohm resistor from point J to ground. This makes collector of Q13 see a load that once was the relay coil.

Now that you have selected a spot to mount your TR switch, do so in the manner that I've mentioned, like the AF board.

It's time to refer to the manual, Page 79, the x-ray view of the main circuit board, and the schematic for the HW-8 for the following explanation.

Locate C114 (270 pf cap.) on the circuit board. Install a wire from the unoccupied solder land that was once the normally-closed contact of RY1 to the receive side of the TR switch (D4, D5 back-to-back diodes). Take the antenna wire that goes to J302 and twist another wire around it. Then pass them through the solder land hole that once was the normally-open contact of RY1. (Hint: trace L to that point.) Solder the other end of that wire you have twisted to the transmit side of the TR switch. Connect the 12-volt line from the TR switch to the "on" side of SW301, the on-off switch. C305 (0.47 uf cap.) is mounted there. To install the keying line, solder a wire from point J to the keying line of the TR switch (the anode side of D6). One more thing to remember -- you must ground the TR circuit either through the metal stand-off or by attaching a wire to the ground foil of the transceiver. This completes the TR switch installation. Check your wiring again, and get ready to try it out!

Connect power, key, etc. Turn on the transceiver and listen to all those signals barrel in. Connect a clip lead from the antenna jack to the receive

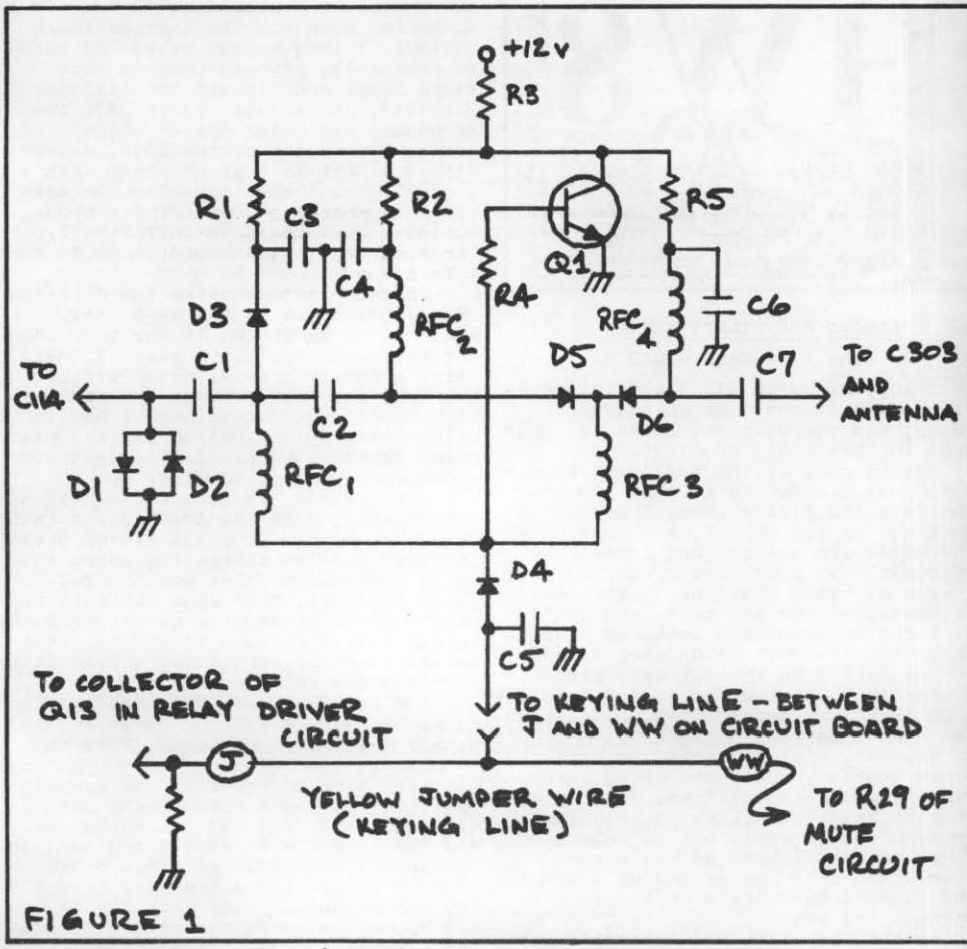

FIGURE 1

terminal of the TR switch. By shorting and unshorting the TR switch, you should not hear any degredation of the incoming signals.

Try the HW-8 for awhile, enjoy the silence of relayless keying. . .until it becomes apparent that the audio recovery is too slow. Not quite QSK!

Fast audio recovery is the second phase of this project. To accomplish this, we must look at the "break-in delay" and "mute" circuits to understand and correct the problem.

On Page 76 of the HW-8 manual, a discussion of the break-in circuit is given. Because there is no more relay, we can decrease the delay that originally was built into the circuit to accomodate the relay.

I changed the value of C92 (10 µf cap.) to 1 µf. To soften the keying, I placed a 0.47 µf disc capacitor from the base to the collector of Q11, the keying transistor. This hint originally was published in SPRAT, the quarterly newsletter of the G-QRP Club. The placement of the capacitor was done on foil side of the circuit board.

The audio recovery rate is determined by the RC time constant associated with IC2C, the audio preamplifier, and C38, C39, and R27. With these present values, the recovery rate is 2.1 seconds.

Because R27 is frequency independent, I elected to reduce its value to 500k instead of reducing C38 as suggested in SPRAT. With this change, the recovery rate will be about 1.1 secon

With these component changes, you might notice some popping. This is a race condition between the receiver recovery and the sidetone oscillator. Adjustment of the delay control, R68, probably will eliminate this conditio If it remains objectionable, you can increase C92 to 4.7 µf, or play with the value of R27.

If anyone desires a printed circu layout and parts placement guide, sen me an SASE with your request. But I do not have ready-made PC boards for this project.

This TR switch has been in operat

n for more than six months without any l effects. The radio is a real joy to erate now, without that unmentionable noyance. I hope you will enjoy yours much as I've anjoyed mine.

Back on the domestic side, my wife d three children enjoy my physical mpany. Except for some outside QRM, e family is back together again!

P.S. Don't let those soldering irons et too cold. I have a few more modifiations that might tickle your interest.

Author's address: 168 Lexington Dr. Shirley, L.I., NY 11967)

Parts list:

1-7 - 0.01 uf disc ceramic
1-6 - 1N914 or 1N4446
1,2,5 - 1k, ½ watt
3 - 330 ohm, ¼ watt
4 - 3.3K, ¼ watt
6 - 270 ohm, ¼ watt
FC1-4 - see text
1 - 2N222 or 2N3904

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(Feeding a flat-top -- continued)

final spacing, between two stable, fixed objects such as trees, buildings, etc.

Fasten each spreader to each wire by using a tie wire made of any appropriate scrap wire you have handy -- larger than No. 18.

Figure 1 on Page 6 suggests how this can be done. Bind the tie wires very tight, using pliers. Space the spreaders uniformly at the distance you have chosen (2 feet suggested). When all spreaders have been attached, give each tie wire a dollop of paint where the tie wire is twisted around the line wire. This will prevent the tie wire from loosening as time passes and sliding down the line wires. If you don't like paint, "Duco" cement will also do the job.

When the paint or cement has dried, your line is finished and ready to be swung into place in your antenna system.

It may be said that lines made this way have been carrying RF successfully for decades. On the other hand, coax cable -- all but the most expensive grades -- goes stale after two or three years' exposure to sunlight and the rest of the elements.

It has been my experience that a line of this kind is less expensive, probably more efficient electrically, and is much more flexible frequency-wise than any solid-insulated coax that most hams would use. I recommend it heartily!

Incidentally, there is a superstition among amateurs that open-wire line "causes RFI." My experience has been otherwise -- IF a good antenna tuner is used between the transmitter and the feedline. True, the two-wire line is surrounded by an appreciable electromagnetic field. But so is the typical flexible, solid-dialectric coax. See the scholarly article in QST, April 1981, Page 28. Or, get out your absorption wavemeter and sniff around an RF-carrying coax cable.

A coax cable is only a "RF-tight hose" if its outer shield is made of thick, solid copper and if it is installed and used in accordance with the best commercial practices.

A properly used, high-Q antenna tuner attenuates harmonics far better than any single-band, coax-fed dipole ever can. Because such a tuner can be thrown together cheaply from junk box parts, every amateur should use one anyway, regardless of the type of antenna chosen.

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RIG REVIEW: Kenwood TS-130V

By Carl Olson - WA3SEE

The TS-130V is advertised by Kenwood as the QRP version of the TS-130S.

I purchased it because I appreciate having many of the features that are built-in. . .for example, digital frequency counter, noise blanker, and VOX. Of course, it also has provisions for the new WARC bands.

Because the rig is designed for 20 watts input CW (25 watts PEP), the output can exceed 5 watts. On CW, this is easily taken care of by reducing the carrier level with the rig's front panel control. The 130V has a relative RF power meter instead of the Final Stage Current meter in its big brother, the 130S. This metering circuit or the ALC can be selected to gauge output power. I've found that my rig reads 8 at 11 watts out, at 6 for 5 watts, and 2 for one watt out. Once these relative readings are known, it is easy to adjust the output to suit conditions.

Upon reading the service manual, I got the idea to to try to adjust the ALC pot. (VR3 on the top of the transmitter filter unit, the second pot in from the side of the filter unit) I found that I could turn it counter-clockwise so the ALC action would start with lower power, and I set it for 5 watts out. Naturally, the relative power meter now peaks at 6.

The rig is a joy to operate. The receiver appears to be both sensitive and selective. I have to narrow CW filter installed, which is spec'd at 270 Hz (at 6 db down). I find it quite to my liking. If I had to change anything, I'd prefer the rig came with full break-in on CW.

I suppose some might balk at the rig's price, but it offers flexibility along with many built-in options that should prevent the TS-130V from becoming obsolete any time soon!

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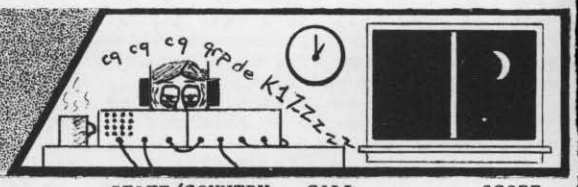
QRP CONTESTS



Contest results from January SSB QSO Party and April QSO Party. For more detailed listing, send SASE, #10-sized envelope to:

William Dickerson - WA2JOC
QRP ARCI Contest Chairman
352 Crampton Dr.
Monroe, MI 48161

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JANUARY 1981 SSB QSO PARTY

Top 10 scores worldwide

N4BP	266,308
WA2TPU	171,996
W6YVK	50,260
K8IF	48,321
KM5D	41,748
K3ZR	39,498
AI9M	29,468
WD8IDD	23,310
KC5CP	22,764
WB4RRA	17,712

Scores by state

STATE	CALL	SCORE
Arizona	WB7PST	8,712
Arkansas	AD5F	3,080
California	W6YVK	50,260
	K6URI	check log
Delaware	W3HKS	486
Florida	N4BP	266,308
Illinois	AI9M	29,468
	W9ZSJ	17,649
	WB9WOM	10,668
	AI9W	9,180
	K5VOL	5,280
Kansas	KAØDGR	4,195
Louisiana	KM5D	41,748
Maine	WA1POZ	4,686
Maryland	K3ZR	39,498
	WA3FNK	5,166
Michigan	K8IF	48,321
	WA2JOC	check log
Missouri	KAØFDL	2,530
	WØPOF	336
Montana	KL7FDQ/7	13,440
New Jersey	WA2GTJ	7,290
New York	WA2TPU	171,996
	WA2FQA	11,026
	WA2GOS	9,744
	WA2KSM	1,680
Ohio	WD8IDD	23,310
	WD8OJC	2,592
	WD8SBM	930
Pennsylvania	W3TS	1,816
Texas	KC5CP	22,764
	W5TOU	7,525
	W5QJM	1,080
	WB5FCO	check log
Utah	WN7SIU	2,124
	N7ARE	check log
Virginia	WB4RRA	17,712
	K4AHK	7,452
Washington	K7LYT	448
Wisconsin	WB9LKC	1,050
	K9GDF	120
Canada	VE5JQ	972
	VE6PD	775

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APRIL 1981 QSO PARTY

Top 10 scores worldwide

WA2TPU	506,840
N4BP	493,612
N5QQ	218,304
N7ARE	168,592
WB1ESN	164,220
W5DO	149,112
N5BA	125,504
W4IV	123,240
K9VCM	103,472
K4AHK	98,884

Top Novices

KA7GXT	8,408
KA7GXK	2,820
KA2LIN	1,584

Scores by state

STATE	CALL	SCORE
Alabama	K4JXS	6,240
Arizona	WB7PST	70,308
California	W6DDB	52,065
	WA6POC	34,428
	W6SKQ	32,456
	W6YMH	26,312
	K6XO	11,868
	W6PRI	4,437
	W6TZA	2,288
Delaware	W3HKS	1,974
	N8NA/3	1,008
Florida	N4BP	493,612
	WA9WZV/4	43,560
	W4QN	26,598
	K4KJP	11,828
	KC4CS	3,320
	K4FS	2,016
Georgia	WB4AEG	96,800
	WD4DSS	16,368
Illinois	WB9WOM	91,520
	WB9HPV	83,160
	WD9IFF	20,736
	WD9EGW	3,876
	WA6BCN	3,552
	K5VOL	2,840
	KA9JDX	1,392
	KA9HAO	1,280
Indiana	K9VCM	103,472
Iowa	WØPFR	14,964
Kansas	KAØDGR	8,360
Louisiana	KM5D	80,028
Maine	W1HHV	17,658
Maryland	N3PM	47,844
	K3TKS	12,896
Massachusetts	WB1ESN	164,220

STATE	CALL	SCORE
Massachusetts	AD1C	70,500
	WA1VGF	14,544
Michigan	K8BX	17,372
	KA8DFJ	12,426
	W8HCS	11,760
	KA8EEA	6,300
	K8KIR	6,192
	N8LA	1,540
	K8IF	check log
	WA2JOC	check log
Missouri	WBØWIW	74,520
Nebraska	KAØO	36,284
New Hampshire	K1VV/1	55,440
	WB1GNX	14,664
New Jersey	WB2DGJ	20,720
	WA2GTJ	3,328
	W2JEK	504
	W2AXZ	check log
New Mexico	W5DO	149,112
	K5XY	36
New York	WA2TPU	506,840
	KB2VZ	60,320
	K2MQY	43,608
	KA2CGV	22,720
	WB2IVX	19,468
	WA2PMW	14,414
	W2ZOJ	11,928
	KA2GCS	9,120
	K2EU	4,320
	KA2LIN	1,584
North Carolina	WD4LOO	33,300
	W4OMW	12,160
North Dakota	WA5TFU/Ø	19,440
Ohio	W8MGF	37,592
	WA2TDL/8	35,412
	K8AJT	7,920
	KJ8I	4,510
	W8EAO	810
Oregon	KA7GXT	8,408
	KA7GXK	2,820
Pennsylvania	W3TS	82,096
	KA3DBO	48,880
	K3JSZ	17,284
	W3CEI	1,581
South Carolina	K4ADI	4,608
Tennessee	W4IV	123,240
	WB4CSK	4,244
Texas	N5QQ	218,304
	N5BA	125,504
	KB5CS	82,600
	KA5HWL	80,320
	K5SN	19,980
	K5PSH	19,236
	KG5F	3,540
	AD5F	3,200
Utah	N7ARE	168,592
	WN7SIU	1,718
Virginia	K4AHK	98,884
	AI1Y	59,340
	WA4FKK	57,028
	KC4ZA	35,352
	WB4RRA	9,936
	WD4BLU	6,160
Washington	KB7NV	6,636
	AA7O	2,120
West Virginia	WB8BSB	41,760
	WA8CNN	17,784
Wisconsin	WB7OJV/9	52,998
	WB9LKC	1,364
Wyoming	W7BQY	19,320
Alaska	WA4CPR/KL7	3,552

STATE/COUNTRY	CALL	SCORE
Alaska	KL7DG	760
Hawaii	KH6CP	4,760
Brazil	PY8ZLC	488
Canada	VE6PD	22,508
	VE1RH	check log
Japan	JE2AOQ	232

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UPCOMING CLUB CONTESTS

OCTOBER 1981:

Annual QRP ARCI October QSO Party - runs from 1200 UTC Saturday, Oct. 17 to 2400 UTC Sunday, Oct. 18. EXCHANGE: members - RST, state/province/country (SPC), QRP ARCI number; non-members - RST, SPC, power OUTPUT. SCORING: stations may be worked once per band for QSO and multiplier credits. Each member contact counts 5 points, regardless of location. Each non-member US/Canadian contact counts 2 points. Non-member Novice/Technician contact counts 3 points. Non-members stations other than W/VE count 4 points each. Bonus multipliers: 100% "natural" power (i.e. solar, wind, etc.) with no storage x2; 100% battery power x1.5. Power multipliers:

4-5 watts output.....x2
3-4 watts output.....x4
2-3 watts output.....x6
1-2 watts output.....x8
Less than 1 watt output.....x10

Tallying points: claimed points per band = QSO points x total SPC x power multiplier x bonus multiplier (if any). Add totals for each band worked for grand total. Please enclose separate work sheet showing above calculations and time(s) off the air. FREQUENCIES: (all are plus or minus to clear QRM) 1.810, 3.560, 7.040, 14.060, 21.060, 28.060, 50.360 MHz. Novice frequencies: 3.710, 7.110, 21.110, 28.110 MHz. Any VHF/UHF contacts must be made direct - no repeater contacts. CALLING METHOD: CQ CQ QRP de call sign. AWARDS: certificates to the highest scoring station in each SPC with two or more entries. Certificate to highest scoring Novice or Technician overall. LOGS: send full log data plus separate work sheet showing scoring details and time(s) off air. No log copies will be returned. Please indicate if you are a Novice or Technician. Entrants desiring results and scores please include a #10 envelope with postage for one ounce (or IRC equivalent. Entry in the contest constitutes an agreement by the entrant that in case of dispute, the decision of the contest chairman is final. Logs must be received by November 20, 1981 to qualify. Logs received after deadline or missing information will be used as check logs. Send logs and scoring information to the contest chairman (see officers roster, Page 2)

(Other on-the-air activities, Page 12)

OTHER ON-THE-AIR ACTIVITIES

July 25-26: Italian QRP Club phone contest.
August 29-30: Italian QRP Club CW contest.
September 12-13: G-QRP Club CW activity weekend
October 24-25: CQ Magazine WW SSB contest with QRP section
October 31 to November 1: AGCW-DL QRP activity weekend

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QRP ARCI monthly informal QSO party band plan. Informal QSO parties held on the first Sunday of each month: for this quarter - July 5, August 2, September 6.

ALL TIMES IN UTC

80M 0100-0300
40M 1500-1600, 1900-2000, 2300-0000
20M 1600-1700, 2000-2100, 0001-0100
15M 1700-1800, 2100-2200
10M 1800-1900, 2200-2300

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HEAVY TRAFFIC: net news

By Robert "Red" Reynolds
K5VOL

Again this quarter, there have been major changes in our club nets. The most significant change is that now, all the nets are official QRP ARCI nets. Prior to this, the nets were separate entities, although heavily supported by the club.

The most noted differences will be in the QNI certificate program:

• First, instead of a 20-QNI minimum to qualify, the new minimum is 25 QNIs. All check-ins on or after April 1, 1981 count toward the new benchmark. The new certificates will be issued after June 1, 1981, or I should say, are being issued. For those of you who have the old, 20-QNI certificate, you'll be issued a new piece of wallpaper after you have logged 25 QNIs as of April 1.

• Second, only one certificate will be issued, with stickers available for endorsements on different nets. Prior to this change, a new certificate was issued for each net.

• Third, in order to help offset handling, printing, and postage, we are asking for $2 for the certificate and $1 for subsequent endorsement stickers. This was an agonizing decision, but it could not be avoided and still provide the awards. If you are familiar with our awards program, you'll find these rates consistent with those charged for our awards.

Because of the third point, we are modifying the method by which certificates are issued. Certificates will not be issued automatically. Instead, we will ask those who qualify if they would like an award or endorsement sticker. Hence, this is not an award for which one can apply. Instead, it is coordinated between the awards manager and the over-all net manager. Despite these changes, I feel everyone will find the net QNI award program satisfactory.

The regional net idea really has taken off! We still have a few bugs to iron out, primarily in the amount of support given to a couple of nets and in the date and time of a couple. But most are fairly stable now. Some of the regional net managers could use some help with NCS duties. This is a good way to build net and QRP skills!

The following nets currently are operating on standard QRP frequencies. All frequencies are plus or minus 5 KHz to clear QRM. Also, the starting times listed may vary up to 5 minutes later, so if you don't hear the net call-up right on the dot, hang around for another 5 to 10 minutes. All times are UTC to avoid the confusion in trying to compensate for different time zones and daylight savings time. Also, please note that many 80 meter nets, such as the Great Lakes Net (GLN) 80 meter version, move to 40 meters during the summer to avoid the abysmal band conditions on 3.5 MHz. However, credit still will be given for 80 meters to those who check in to these "transient" nets. Also listed are the net managers for each net, in case anyone wants to volunteer for NCS duty!

TCN-20M, Monday, 0001Z, 14.060, K8IF
TCNN-15M, Monday, 2300Z, 21.110, WA2KSM (Novice)
TCSN-15M, Sunday, 2000Z, 21.385, WA5TFU/ (Sideband)
GLN-80M, Thursday, 0200Z, 7.040, K5VOL/9
GSN-80M, Thursday, 0200Z, 7.040, K5BOT
NEN-40M, Saturday, 1300Z, 7.040, WB1ESN
SEN-40M, Wednesday, 0100Z, 7.040, WD4LOO WA9WZV/
GLN-40M, Saturday, 1500Z, 7.040, K8KIR
SWN-40M, Saturday, 1600Z, 7.040, W6RCP

QNI Certificate #13 (80 meters) issued to WD9EGW.

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CLUB AWARDS UPDATE

By Doug Crittendon - WB1ESN

(From Hugh Aeiker - WA8CNN:

I wish to thank Doug Crittendon, WB1ESN, for stepping in and accepting the position of awards chairman upon my notice of resignation.

After almost 13 years of issuing QRP awards, I was reluctant to give notice. During this period, one comes much closer to the members through his award applications and his personal notes. This is the part I will miss! This is the reason I wish to thank each and every one of you for the pleasure of being your awards manager for those years.

Now to Doug -- a lot of good luck to you in your new job. For the short time I have known you, I am sure you

will do an excellent job. Just one warning, though. You will meet a great bunch of guys and dolls through your mailbox.

Again, my thanks, and congratulations!

Hugh - WA8CNN)

Greetings all! I'm very pleased and proud to have been elected awards chairman. Many thanks to those of you who sent letters of encouragement and personal information with your awards applications. And a special tip of the hat to Hugh Aeiker, WA8CNN, for helping me get off on the right foot!

I am in the process of reprinting, renewing, and updating all of our awards to incorporate our new definition of QRP, the new logo, and output power instead of input. This will take a bit of time and money, so until the task is complete, all awards will be endorsed for output and power used. To date, I have completed the KM/W and WAS-QRP awards. I also have a new seal for two-way QRP endorsements. A new WAC certificate is on the drawing board and should be available soon.

NOTE: As of June 1, 1981, no applications for new awards will be accepted unless the applicant was running a power output of 5 watts or less. The only exception to this is the QRP 25 award, which is issued regardless of power. However, those who were issued their awards before June 1 will be allowed to continue with their endorsements using the requirements under which they were issued the original award.

To apply for awards, send full log data and GCR list, or copies of QSLs, with $2 or 10 IRCs. Specify endorsements desired (must be indicated in log information). An SASE will speed the return of your award.

One of the highlights of this quarter was issuing the 50-state seal to Chris Page, G4BUE. He is the first DX station to earn all 50 states. WB9HPV is workign toward a five-band WAS-QRPp and is the only member to have been issued a basic certificate on all five bands (80-10). Another leader is WA2KSM, who is striving to have all his awards endorsed for two-way QRP QSOs. . .a real challange. Finally, but not at all least, as I look down my listings, N4BP is the first member to earn a WAS-QRP (all 50 states) while operating solar power. He received one for input and output. Must be that everpresent Florida sunshine that gave him the edge!

KM/W-CW:
KA6NXU to KA4GRX, 1.5w, 1.423 KM/W, 21
WB5SOO to VK4NIC, 2.5w, 2.090 KM/W, 21
KA5FQX to VK3XB, 1w, 9.071 KM/W, 21
KA4IUS to ZL2MM, 5w, 1.540 KM/W, 21
WA2KSM to I3XTY, 2.5w, 1.859 KM/W, 21 (two way)

KM/W-CW (continued):
WB1ESN to OK2BEH, 1.5w, 2,537 KM/W, 14
VE5ADL to LA2FY, 2.5w, 1.450 KM/W, 14
KL7DG to PY1VT, 5w, 1.680 KM/W, 21
N1ABS to JA8FXO, 5w, 1.147 KM/W, 21

KM/W-SSB:
AI2I to JA3YKC, 5w, 1.320 KM/W, 21
KB9JJ to VK3BCA, 2w, 4.802 KM/W, 14
WB9VGJ to AH2E, 5w, 1.473 KM/W, 28

WAS-QRP:
KA4IUS, CW, Novice

WAS-QRPp:
N4BP, all solar, all 50, input
N4BP, all solar, all 50, output
VE5ADL, basic, 20 states, 2.5w, CW
AI2I, all 50, 5w, SSB
G4BUE, all 50, 5w, CW (1st DX winner)
KB9JJ, all 50, 2w, mixed mode
KA7GXT, 45,50 seals, 2w, CW

WAC-QRP:
JF2AFJ, 20w, SSB
JE2GJD, 20w, SSB
WB9HPV, 2w, CW
AI2I, 5w, SSB
KB9JJ, 2w, mixed mode
KA4IUS, 80w, CW, Novice
KA5FQX, 1w, CW

DXCC-QRP:
K3NN, 101 countries, 2w, mixed mode
WB9HPV, 50 countries, 2w, CW

QRP 25:
K4AHK, 25 and 50 seal, mixed power, mode
K9VCM, 800, 900 seals
K8IF, 500 seal
WB1ESN, 100 seal
AA9N, 50 seal
W3CEI, 50 seal

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QRP GOLD PAN AWARD

During 1981, KL7DG is conducting his second QRP Gold Pan Award QSO count on 15 meters -- CW only -- during the calendar year. Each QSO counts 1 point multiplied by the Great Circle distance from the station to Anchorage. No more than one QSO with Alaskan station per GMT day. Highest score in 1981 will receive an engraved Gold Pan with call sign engraved by veteran Alaskan engraver Hagen. Chairman for the 1981 contest is JF2BBF, who won the contest in 1979 with 10 QSOs. For more information, contact KL7DG or JF2BBF.

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TEXAS TRAVELING TROPHY

By Fred Bonavita - W5QJM

One glance at the turnout of Texas-based hams in QRP-related events was enough to convince a loosely knit bunch of us in the Austin, Tex., area that something had to be done.

"We need a traveling trophy to test the tenacity of Texas troops!" suggested Dave Farris, K5NT.

"A peripatetic plaque paeans persistent, productive persons!" rejoined Ed Popp, K5BOT.

"Yes! A wooden wallboard would work wonders!" I cried.

And so it went all through that breakfast at our favorite Mexican restaurant in Austin. Finally, we agreed to provide the incentive to get more Texas stations involved in QRP contests and other events.

Our approach can be readily adapted to meet local conditions elsewhere.

First, we agreed that our Texas Traveling Trophy would be offered in a fashion that would encourage participation in others' already-scheduled events, rather than in competition with them. We decided to piggyback such things as QRP ARCI's annual Spring QSO Party, followed by the ARRL Field Day, and perhaps an operating event sponsored by the G-QRP Club.

We decided to pick the event, publicize it in the Texas QRP Report, which circulates in many areas of the Lone Star State, and use the Report to announce the winners' names.

Second, because the trophy was intended to increase turnout of Texas stations in QRP events, we limited eligibility to stations operating in Texas, although we do not exclude an operator who happened to live here temporarily. Furthermore, despite stated power limits for the contest to which we were piggybacking, our awards only would go to those who run no more than 5 watts output CW, 10 watts PEP. And one could win the Texas Traveling Trophy, even though they finished last in the national contest, as long as they finished first among Texans. Win it three times in a row, we said, and it is yours!

We next embarked on a publicity campaign. We mailed press releases to the editors of various radio club bulletins around the state (about 85 went out). We arranged to do a QRP program at the Austin Amatuer Radio Club, at which we unveiled the plaque for the first time publicly. It consists of a polished wood background with a brass outline of the state of Texas, on which is engraved: "QRP Texas Traveling Trophy. Power is no substitute for skill." (We shamelessly lifted that last sentence from some obscure group somewhere.) Attached across the bottom of the plaque are individual brass plates on which the winners' calls will be engraved, along with the date of the event. And because the award is literally a traveling trophy, we've made up certificates attesting to the win. This stays with the winner, even though he may lose the trophy itself in the next contest.

What kind of success have we had?

Frankly, only moderate success. There was a good deal of interest in the plaque and in QRP at the radio club meeting. At least one long-dormant QRP ARCI member got the fires going again and made a bid for the trophy. He also later renewed his subscription to the QRP Quarterly, which is one of the side effects of the effort that we were hoping would happen. Our news releases brought us only scattered response, although one editor wrote to say that we had encouraged him to dust off his HW-8 and get back on the air with it. He said he'd had a ball!

We have a foot in the door, however. And with a little more pushing and emphasis, we will make it all the way through the door. We've identified those individuals who, with a little personal encouragement, will work QRP more often. We know which bulletin editors will run our items, even if it is grudgingly.

In a smaller, more homogeneous state, a Texas Traveling Trophy-type effort probably would succeed more quickly. It's an easy, inexpensive and fun way to encourage more QRP activity in your state. Or perhaps there is an active QRP clan in the adjoining state that would help sponsor a trophy that could be competed for by operators from Both sides of the common border.

The possibilities are almost endless, and we all stand to gain by them.

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FROM THE SECRETARY'S BLOTTER

By Edwin Lappi - WD4LOO
QRP ARCI Secretary-Treasurer

It is with regret that the Board of Directors has taken the drastic action of voting in a dues and renewal increase so soon after the last increas But after seeing the QRP Quarterly's postage jump about 60% and after a careful study of the alternatives, it was with great reluctance that the board took this action. The last dues increas was made at a time when an increase in postal rates was just being discussed, with no numbers being tossed around by the US Postal Service. When they did boost the first class rate, they also tightened restrictions on third class mailings and structured third class rates so that they equal first class rates until the weight of the item mailed exceeds 4 ounces. Only then does one realize any savings by going the third class route. As a further means of reducing postage costs, we have turned to a reduced size for the Quarterly. This yields less weight, and ironically, more space, for a given number of pages. (The smaller size also reduces printing costs somewhat.)

In boosting the dues and renewal rates, the board tried to anticipate the postage increases still being discussed for later this year. Thus, the increase should eliminate the necessity of boosting rates again for new members and "re-uppers" for a few more years. Please take advantage of the old rates, but renewals will be restricted to two years in advance under the old rates,

ntil the new rates take effect October , 1981. These new rates are as follows:

	Membership (New)	Renewal
S/VE	$6.00	$5.00
X	$7.00	$6.00

ELECTION: Please note that elsewhere in this issue are the profiles and a ballot for electing four new members of the Board of Directors, The incumbents' terms expire on December 31, 1981. Please return your ballots to the Secretary-Treasurer no later than August 15, 1981 so that they can be counted prior to the club's annual meeting. There are six excellent candidates running for four seats, so read their profiles carefully and select the four you believe will best serve the interests of QRP ARCI. Those elected will serve for 3-year terms beginning January 1, 1982.

S.A.S.E.s: Postage being what it is these days, please include a large SASE when you write an officer of the club and wish a reply. Especially, include a large SASE when applying for club awards. Also, include your name, call, address, and QRP number when writing.

CALL CHANGES: Whenever you upgrade and receive a new call, take a moment and drop a postcard in the mail to the Secretary-Treasurer giving the full particulars -- name, call (new and old), address, and QRP number. This enables the Secretary-Treasurer to keep the awards manager informed of all new calls so that he can verify your award applications -- especially if you are working towards an award for working members of the club.

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CLUB ITEMS

From the Secretary-Treasurer:

(1) Club bylaws - send #10 envelope SASE for 1 oz.
(2) Club history, 1961-71, $1.00 plus #10 SASE 2 oz.
Supplement I, 1971-74, 50¢, #10 SASE 2 oz.
Supplement II, 1974-75, 50¢, #10 SASE 2 oz.
Supplement III, 1975-77, 50¢, #10 SASE 2 oz.
(3) Membership applications, 16 for $1.00
(4) Latest membership roster, 50¢, #10 SASE 2 oz.

From the QRP Quarterly Editor:

We have a limited number of back issues, which are available for $2.00 each. If the back issue must be photocopied, $2.50 each.

Of general interest:

(1) QRP ARCI name/call badges -- these sharp-looking plastic badges are 2" x 3", black lettering on white background, and include your first or last name, call, and the club logo. Price: $4.00 each. Order from George Collier - WØEG, 1816 Third Ave., S. Anoka, MN 55303.
(2) QRP ARCI personalized QSL cards, which incorporate your call, QRP ARCI membership number, and the club logo. Price: $19.95 + $2.50 for shipping for 1,000 cards (1,000 card minimum order). Order from Certified Communications, 4138 S. Ferris, Fremont, MI 49412.
(3) NEW NEW NEW NEW! From Forwardco: QRP ARCI club rubber stamps for use with your QSLs or personal stationery. Comes in three styles:
A-5/8" x 3/8" stamp of the club logo. $2.00
B-1-1/8" x 5/8" stamp of club logo. $3.50
C-Same size as B but includes your call and QRP number. $4.95
All prices are post paid. Order direct from : Joe Turkal - K8EKG 1234 Concord NW, Massilon, OH 44646. For each stamp style B ordered, Forwardco will donate 50 cents to the club. For each style C ordered, $1.00 will be donated to the club. So this is a great way to dress up you QSLs and stationery and support the club at the same time! Don't delay, order yours yesterday!!!!!

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HONOR ROLL PLAQUE

In recognition of outstanding, meritorious, exceptional, or special services on behalf of the QRP Amateur Radio Club International, a special merit award has been authorized. The Honor Roll Plaque is given to those members whose dedication to our policies and principles are expressed in their loyal devotion to promoting the welfare of the club, and thus fostering interest in QRP.

Each case is considered individually and strictly on its own merits by the officers and board of directors of the QRP ARCI. Candidates must be nominated by a fellow club member in good standing, who also is familiar with the activity for which the nomination is being offered. Submit nominations to the secretary-treasurer, along with a detailed explanation of the reason the individual isbeing nominated. The nomination is reviewed by the President, Vice-President, and Secretary-Treasurer. Upon their approval, the nomination is put before the officers and board. A 2/3 majority is reuired to approve the candidate.

We recognize that services to the club vary. Thus, length of membership and quantity of service are not necessarily the primary criteria for the award. For instance, the award might be issued to a survivor of a deceased member, if that member rendered exceptional service to the club. The plaque is not issued on a regular basis, but is issued as often as nominees meet the criteria.

PUBLICITY FOR OUR THIRD DECADE

By Fred Bonavita - **W5QJM**
QRP ARCI Publicity Chairman

Not long after I took over as publicity officer for the QRP ARCI, I got a letter from a member in Washington state. He chided me about the amount of publicity the club is and is not getting. He raised some valid points and offered some constructive suggestions -- the type of letter I enjoy receiving and to which I readily reply.

Without reciting all his points, his beef is best summarized in one succinct sentence: "It seems the club is not making very much progress in obtaining new and active members." Amen! We are celebrating our 20th anniversary this year, and we're headed toward the 5,000-member mark. But the QRP Quarterly has a paid circulation of slightly more than 600.

The club member went on to say that we need more national publicity, with which I wholeheartedly agree. As the new publicity man, I am going to do my darndest to see we get our share of national and international attention and recognition. But I can't do it all, nor can I do it single-h dedly. I need your help, and I need it now. In return, I am prepared to help you help me, and in the long run, help the club.

There are a few problems that first must be overcome. Chief among these is the fact that QRP ARCI no longer is a novelty. We've been around for 20 years, and our story has been told and retold in the various national amateur publications.

There is a limit on how many times we can expect it to be repeated, and I'm afraid we're at the saturation point.

Remember, the national magazines and newspapers on which we rely for publicity publish only 12 times a year. We are doing well to receive mention three times a year in each of them. None would refuse a story with a fresh legitimate angle to it. But it is wrong to expect editors to dust off the basic story about QRP ARCI, or any other special interest group, and run it annually. Our spring and fall QSO parties and other activities will get the attention they deserve.

This leaves us with an outstanding alternative: an aggressive publicity and membership campaign at the local, state, and regional levels. Not only do we need to go after new members, we also need to get the old ones to "re-up", as my first sergeant used to say. And we need to promote local, state, and regional activities that draw attention to QRP in general and QRP ARCI in particular. It's amazingly simple and easy!

For instance, a group of QRPers in central Texas decided (over a breakfast of huevos rancheros, hot flour tortillas, and coffee) that there was not participation by Texas stations in QRP contests and events, despite advance publicity. In short, Texas turnout was lousy. So we came up with an incentive to encourage participation: the Texas Traveling Trophy. You may have read about it on Page 13 of this issue.

Perhaps the most important thing we did in connection with that little project was distribute a small brochure on QRP. It was thrown together almost a the last minute. It was written from th standpoint of the amateur who knew only that QRPers existed, but not where, when, how, why, etc. That's what we tol them: WHAT frequencies to monitor; WHEN to monitor, based on the club's informa QSO party band plan; etc. Ours was an across-the-board effort, not zeroed in on QRP ARCI but giving a broad picture of our segment of the hobby. When membe of a club before which we made a presen ation left that meeting, they took with them information on QRP nets, awards, hints for building gear, and more infor mation on the TTT.

Here's what we learned from our efforts:

- First, newsletter and bulletin editors generally are hungry for articles, regardless of their personal feelings about QRP. We think we could have gotten a better ride on the TTT article if a local club member had hand-delivered it to the editor. In-house contacts never hurt.
- Second, many clubs are equally hungry for fresh ideas for programs an most never have had one devoted to QRP Within two days of our appearance befo the Austin Amateur Radio Club, we had inquiries about bringing our "travelin peanut whistle program" to two other clubs, one 100 miles away. And QRP was the topic of conversation during an after-the-meeting bull session by the Austin group. Others have caught us on the local repeaters since then to ask about the TTT and how to crank down th drive on their transmitters. We have had requests for extra copies of our QRP brochure. The residual effects are still coming in.
- Third, we feel there is enough interest in QRP that we are going to make the major hamfests and swapfests around the state beginning this year t spread the word.

So what can you do? We will have available soon -- at no cost to member -- a complete QRP ARCI publicity kit. It will offer full information on the club, nets, frequencies, times, awards etc. There will be sample news release of articles and/or story suggestions you can "plant" with your local or reg ional editor, all with a strong loca angle concerning QRP. There will be QRP ARCI membership application form.

However, because of the cost involved, distribution of these kits wil be limited. The club can't afford to send dozens of copies for distribution

t each radio club meeting. Instead, he kits will consist of "master" tems that can be readily reproduced ocally by photocopying or by some ther means, and distributed as needed. e hope that only one request would ome from each city, and that is going to require coordination at the local level. Get together with others, form a local club or support group, send for the kit, and have at it!

The club also is preparing a slide show under the direction of K4KBL. When complete, it will be available with script for use as part of a club program or possibly as a backdrop for a QRP booth at a hamfest. Reservations will be required once the slide show has been put together, so watch the QRP Quarterly for details. The QRP ARCI banner also is available for booking through K8IF.

And the club soon will have a handy guide for showing the club colors at hamfests and coventions, where prospects for new members abound! The press kit and hamfest guide will be available from me around midsummer. Order early!

There you have it. The national leadership will do its part in scheduling, organizing, promoting, and staging national and international events. We need to bolster those efforts with an aggressive campaign at the local local level. And that means you! The real thrust for recruiting new members and getting old ones to "re-up", as well as for publicizing QRP ARCI has got to come from the rank-and-file.

It works!

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(Editor's Soapbox, continued)

neighbor's receiver, TV, filled tooth, or whatever.

A letter I've seen from a diehard homebrewer and QRP buff illustrates the point. With his homebrew receiver, which he designed to include razor-sharp IF filtering, he could easily work within 500 Hz of a "superpower station" about three miles away which runs a pair of 4-100s "at who knows how many KW" and who uses 5-element monobanders aimed right at the letter-writer. When he switched to a commercially-made receiver, he struggled to work around QRPers (!) several hundred miles away and two or three KHz away.

The key to short-circuiting QRM, then, lies in a clean signal and a selective receiver, not in arguing that QRO people should clear off the band. If one isn't technically inclined, there are a number of useful audio filters on the market ranging in price from two or three weeks' worth of the kids allowance to a week's worth on one's salary. Otherwise breadboarding a filter may be the way to go. One QRPer I know built a new, more selective IF section for his Argonaut.

2. Also worth noting is that the QRO signal that to you constitutes QRM may indeed be a signal whose power level is necessary to maintain the contact. Admittedly, this is not always the case, but often it is.

Consider a regional HF traffic net. I have participated in some nets, whose members high power. There were times when net stations running 100 watts or more were tough to copy because of band conditions. Often, these stations are either on the fringe of each other's ground wave, or they are trying to pull in signals that haven't hit the ground yet on their first skip. Despite the fact that the stations are relatively close geographically, they may not be so close propagationally -- especially fighting incoming QRM from other parts of the country. This also explains why it is entirely possible for 5 watt signals to QRM higher power stations. In that case, we may deserve the censure that we sometimes are ready to so readily heap upon the heads of QRO ops.

Certainly there are always those hams who run much more power than necessary to maintain the contact. But before we dig our nails into our palms over that loud signal just down the dial, let's ask two questions:

1. Am I <u>really</u> certain that he doesn't need to run the power he is using? This is a variation of the "May I never criticize my neighbor until I have walked five miles in his moccassins" or the "Judge not lest ye be judged" principle.

2. Can I make my receiver or receive section more selective than it now is? This strikes at the very heart of Amateur Radio -- taking something off the shelf and improving its performance or rolling one's own piece of gear to meet or exceed the performance of what is available off the shelf.

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BOARD NOMINATIONS

FRED BONAVITA - W5QJM

Advanced class license; Member of QRP ARCI for two years; currently serving as club publicity officer.

The club's third decade and continued growth are of prime importance to me and would be my main concerns as a director. I would push for policies that would encourage growth yet would not lose sight of our major aim: to promote QRP.

To that end, I favor abolishing any membership requirements based on power levels. Adopting a "hard line" approach only narrows our field from which to recruit new members and might dissuade others from renewing their memberships.

However, I am equally firm in saying that the club must hold to the newly recognized QRP power levels in its contests, awards program, and other operating events. That offers members and

and prospective members more flexibility in purusing our hobby, and it shields the club from charges of being dogmatic.

In short, QRP must be pursued for its own merits and not as a condition for belonging to a group. And it is up to the national leadership to offer it in that spirit.

WILLIAM W. DICKERSON - WA2JOC

Advanced class license, first licensed in 1972. Age 40, works for YMCA. Wife, 15-year-old boy, 13 year-old-girl; currently club contest chairman.

I enjoy QRP DX, portable operation, and public service. I am the emergency coordinator for Monroe County, MI, and I am the first operator to receive both CW and SSB DXCC QRPp awards.

I have been a member of QRP ARCI since 1976, edited the club newsletter for 2½ years, and have been on the board of directors for a year.

I believe that the club must attract more members and emphasize QRP (5 watts) operation. If I am reelected to the board of directors, my number one priority would be to eliminate the 50 watt requirement for members of the club. I think that the power requirement restricts the involvement and membership of many low power proponents who otherwise would join. As the first and largest QRP organization in the country, I feel that we have a responsibility to be in the forefront of low power operation, but the power restriction prevents us from assuming that role.

G.E. "JERRY" PEREIRA - K4KBL

QRP ARCI #4264; DXCC QRPp #9; QRP interests: solar power, wire antennas, and portable operation.

The newly instituted changes (power, etc.) in our club has created a sense of credibility that long has been overdue in the amateur radio community. We involve ourselves in a segment of the hobby that is so specific and challenging that many of our peers either refuse to attempt such an activity or find themselves in competition with each other, resulting in the "power race" as well as the "bigger and higher antenna syndrome."

On the other hand, many operators have not had proper exposure to QRP and how exciting it can be to hold a QSO with some station while running a few watts. The QRP ARCI slide presentation, currently being produced, will assist in this area. I am convinced that QRP operation is not for everyone, and that's OK. I feel that the club's efforts should focus on its members and their desire to advance the use of QRP in all aspects. In addition, to be and informational source to other amateurs that seek specifics before making any true commitment to QRP and the great pleasure it offers, once fully understood.

As a board member, I will make every effort to continue the trend of making the club a viable organization to be sensitive to its members on our common goal of QRP operation.

In addition, I would support our newsletter and the efforts made to put together a fine product. Perhaps an attempt could be made to publish six issues a year, rather than four. This might necessitate a further dues increase, and an even greater commitment from the editor and staff (Hi Pete) (Editor's note: there ain't no "staff" -- unfortunately) This would be well worth the extra money, especially since QRPers really have no other regular publication to satisfy their desire to gain more information and knowledge about QRP.

ROBERT W. "RED" REYNOLDS - K5VOL

Licensed since 1959; extra class licensee; currently serving on board of QRP ARCI and LAMARS Club; overall net manager for QRP ARCI nets, and manager of club 80 meter nets.

My QRP activities began in 1959 with crystal-controlled tube gear running 2 to 8 watts. I operated, later, 50 watts until 1977, when I went QRP (5 watts) exclusively. I feel the club has made great strides in QRP in 1979 and 1980, and I would press for the same in the future. I fully agree with the club's definition of QRP, but I would like to eliminate the power limit as a membership requirement. I feel a lot of over-100-watt types also run QRP at times, and both they and we could benefit from their membership. As it stand now, we are excluding many potential members with this 50/100 watt limit.

PAUL J. SMOLARZ - WA2HYY

QRP #384; self employed, married with two children; holds Technician license; member of board of directors for QRP ARCI, ARRL member, vice-president of Inter-County A.R.C., Navy MARS call NNNØFTC, net control office southern New York area editor for Kilowatt World Wide; previous position in QRP ARCI: area representative, publicity officer, founder of QRP ARCI Chapter 1, past president; works 15 meters CW, 2 meter FM.

ELLICOTT "VAL" VALENTINE - K4JO

Retired from Western Electric (microwave radio); Age 68; QRP ARCI #3186, has been member for 10 years.

The organization is moving in the right direction, but our membership must be greatly increased to improve our status as the premier world QRP advocates. I am against the 50 watt rule as a prerequisite to full membership. I would like to see this rule

dropped and see QRP ARCI concentrate on 5 watts and less output for contests and awards only. Our regular nets should run as low a power as possible for the conditions in order to show prospective members the practicability of QRP work. New members, thus attracted, may well enjoy running low powers in contests or for awards, but may have to run higher powers if engaged in tropo and backscatter test QSOs on HF or VHF or for reliable traffic handling.

We should not exclude these people, they may have a lot to contribute -- and we need all the help we can get in striving to become the premier international QRP group. The 50-watts-forever rule is counterproductive to this goal.

After consultation with all concerned, there are some projects that I would like to suggest to the organization, slanted toward increase membership. If the ideas, in concert with the suggestions of others, can be implemente implemented, we should accomplish healthy growth and progress.

I believe that if elected, I can serve the QRP ARCI in the direction that the present membership has mandated.

(BALLOT IS FOUND ON PAGE 20 - PSE VOTE!)

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Here's a parting shot from The Call Letter, written by N6YO and coming to you via the Amateur Radio News Service - Ed.

This month's commentary is directed toward an aspect of our hobby that I think needs to be cultivated, else it fades into oblivion.

The construction and use of homebrew equipment was essential in the early days of amateur radio. There was no alternative. As radio grew up, homebrew equipment was still required to supplement the meager hardware available for use in those useless "short waves" assigned to amateur radio operators.

However, as the number of hams increased, commercial equipment became more prevelant until today it has essentially supplanted homebrew hardware in most of the amateur bands. Take a quick look at your own station. What is the ratio of homebrew to commercial gear?

Performance, style, and cost all contribute tothe decision to buy rather than build the equipment we use to communicate with other hams. Few hams can afford the design time and tooling to produce a product comparable to that available on the shelves of the local ham shop.

Nevertheless, if we are to retain the image of innovators and inventors associated with the beginnings of amateur radio, we should avoid the role of being mere operators of commercial gear. We do not want to become the bus drivers of the radio world. Rather, we should strive to understand the innards of those shiney commercial boxes. We should feel confident in our ability to modify them and/or incorporate circuitry of our own design to achieve specific results. In other words, we should take advantage of industry's mass production capability to obtain the basic box on which we then can carve our own individual personality.

Let's face it. The things that separate us from boobtube zombies or good ol' CB breaker-breakers is that extra effort required to become technically proficient and knowledgable, as well as operationally proficient. Let's not allow our privileges to become diluted and restricted through neglect of a vital aspect of our hobby.

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Official Ballot for QRP ARCI Board of Directors election - please read the statements of the six nominees for board of directors, which begin on page 17. After reading the statements, vote for the 4 (four) candidates who you feel will best serve the club. Please return the ballot NO LATER THAN AUGUST 15, 1981 to:

Edwin Lappi - WD4LOO
Secretary-Treasurer, QRP ARCI
203 Lynn Dr.
Carrboro, NC 27510

Call _____ QRP# _____ (For verification purposes only.

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(To be separated by Secretary-Treasurer)

Names listed in alphabetical order:

1. Fred Bonavita, W5QJM 

2. William "Bill" Dickerson, WA2JOC 

3. G.E. "Jerry" Pereira, K4KBL 

4. Robert "Red" Reynolds, K5VOL 

5. Paul Smolarz, WA2HYY 

6. Ellicott "Val" Valentine, K4JO