



# Scuttlebutt

No. 73 February 1988

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## Captain's Cabin Bill Pedersen, KM1C

Hey, YCCC! CONGRATULATIONS! Your efforts have resulted in a very close contest with the FRC for the 1987 CQ World Wides! They have a claimed score of 132.7 Million, while we are currently at the 131 Million level with about 8 eligible scores still not reported to NK1F. Hope everyone sent in their logs and credited the YCCC with their points!

The above proves that the job can be done. Even if the net result is a loss for us, we have made tremendous gains in closing the gap with the FRC. Between this and our win of the ARRLs last Spring, we can say that a high level of COMPETITION and FUN now exists in the Unlimited Club Category of the major DX Contests. We have arrived!

Why the recent successes? Because YCCC is operating as a radio club should: Good, organized meetings with lots of info, fun, and a chance to socialize with members from other areas of the Club. (Thanks, K1KI). A hardworking Secretary/Treasurer and Scuttlebutt Editor. (Thanks KQ1F and K1XM.) An ever-developing Packet System that has improved intra-Club communications beyond anything previously imagined. (Thanks KY1H, AK1A, and many other Sysops and Digipeaters.) An active Scorekeeper, who has given us faster feedback on Contest results than the Club has ever had before. (Thanks NK1F.) And, of course, all of the fine YCCC Operators who

get on the air and slug it out in the Contests, doing a fine job from home, guest-opping, or some of those exotic DXpedition spots. (Thanks everyone!)

The YCCC has had many new members join at the last few meetings. For their benefit, and, perhaps, for a few of the old-timers, too, I think it is important to mention some of the goals of the YCCC:

First: We are a Contest Club and would like to see active Contest participation by all Club Members in the CQ WWs and ARRLs (DX and SS). The YCCC has a good share of "world-class" operators and DXpeditioners, but the Contests will only be won if a solid core-group within the Club gets on and operates. We need every point we can get from every operation, low, medium, or high scoring. N3RD, Dave, from the FRC, attributed his Club's successes to their core-group of dedicated testers. Let's face it: They are good! We will not stand up to them if we approach our contesting haphazardly. We, too, need consistent, reliable operators who can make club points in every major contest.

Second: We want to approach our Contesting on a fair and ethical basis. Even in the heat of battle, it's important to maintain high operating standards. Treat other operators in the Contests the same way you would hope to be treated. It is not an easy task, and, often, can be very frustrating. Needless to say, the YCCC does not condone the use of illegal power, "packet-cheating" by single-ops, "rubber-

clocking", "ESP" call signs, purposely keeping a "few" dupes in the logs, or any of the other myriad ways of obtaining a higher score than was actually earned. If you feel you have to cheat to gain recognition from your fellow testers, you are in with the wrong group! The "every one else is doing it" defense doesn't hack it in the Yankee Clipper Contest Club. We are tough enough to do the job on a playing field that is level for all operators. Cheating, in any form, is not a "gray area". It is totally demeaning and an admission of inadequacy on the part of any individual who participates in such a manner. We want to make our points the old-fashioned way: Good stations, good antennas, good operating practices. Stick with this Club and learn the ways!

On an entirely different note: There is a cumbersome and expensive routine within the Club that needs to be stopped, namely the YCCC Sheraton-Sturbridge Luncheon! (Please don't remind me that I helped to get it started!) Here are the basic facts:

1. The Sheraton-Sturbridge will lower the price of the meeting room to \$100.00 if we drop the luncheon. The room currently costs \$150.00 per meeting, offset by money spent on the meal.
2. I have received numerous complaints about the quality of the food vs. the price, i.e., about \$3.50 worth of food for over \$9.00. This has annoyed enough members that many are refusing to attend another luncheon. (Thus causing the room rental to be picked up by the same small group that attends time after time.)
3. It places a large burden on KQ1F in trying to get an accurate reservation count to the hotel 3 days ahead of the event. (The count is usually not correct, with the hotel having to scramble for additional meals, or the Club having to pay for no-shows.) Charlotte is very valuable to this club as an operator and Secretary-Treasurer; her "Club-Time" should not be wasted on this inflexible and difficult reservation process.
4. Club Officers have to utilize valuable Scuttlebutt space with a constant hounding of the membership about the importance of attending the luncheon so that the Club can get a "free" room. (Sorry, folks. There is no free lunch and there ain't no free room!)
5. It's much more fun and convenient to meet your fellow ops "casually" at one of the restaurants in the Sturbridge area for lunch, dinner, or both. This "fun" is supposed to be the name of the game, and it doesn't really seem to exist at the Sheraton Luncheon.

O.K...So what is the cure? It's easy: We raise the dues by \$5.00 to \$15.00 per year. (The dues have not been raised since 1980.) At our current membership level, this \$5.00 will buy the meeting place for the year with a little left over to offset some of the Scut-

tlebutt expenses. In reality, we have already been paying this amount and then some through the high cost of a not very good lunch. At any rate, note the by-law change proposal to raise the dues elsewhere in this issue. Please come to the February meeting prepared to vote on this change. I hope we can get this done with a minimum of discussion, though no one will be denied expressing their point of view. Keep in mind just how much your \$15.00 per year buys relative to the quality of the meeting place, the meetings themselves, the Club publications (Scuttlebutt, dupe and multiplier sheets, contest forms, etc.), the Packet system, and the opportunities to meet six times a year with your fellow testers from all over New England.

I would now like to focus on the next set of Contests: ARRL DX CW (20-21 Feb 1988) and ARRL DX SSB (5-6 Mar 1988). Under the new ARRL rules, your eligibility to donate points to the YCCC is contingent upon your having attended at least 2 meetings during this contest year, i.e., starting with last April's meeting. (note that no matter where you live within the Club territory, you must attend 2 meetings to be eligible.) The only exception would be for operators who joined during the last year. Please also remember that all multi-ops must have at least 2/3rds eligible YCCC operators in order to count the points for the Club.

The FRC lost the ARRLs to the YCCC last year. You can bet that they will be trying to come back with a vengeance! I am personally asking every operator within this club to get on in both ARRL Contests and do the best job that you possibly can. Let's show the contest world the true strength of the YCCC: our determination to do it right. Our determination to win.

73 de KM1C

P.S. Please attend what will hopefully be the last luncheon at the Sheraton. Reservations to KQ1F!

## Floating

Paul Young, K1XM

Thanks to Cushcraft's paying the postage, we have an extra-large Scuttlebutt. I actually have some articles which did not fit, and have been promised a couple technical articles for next issue. What we really need are some articles on **operating**.

My TS-930 is back on the air after the PJ2X failure with a new final amplifier board. Kenwood refused to sell me one, but Don Busick of Madison Electric Supply managed to get me one. I'm going back to the Caribbean next year for the CQ WW CW - anyone want to join me?

There won't be a spring **Contest Cookbook** this year. K1GQ suggests that instead everyone read Chapter 7 of the new **ARRL Operating Manual**. This section was written by a well-known contest winner. I've read it, and it is excellent.

## Next Meeting

Paul Young, K1XM

The next meeting of the Yankee Clipper Contest Club will be on Saturday, February 6, 1988, at the Sheraton Sturbridge, beginning at 1 pm. Speakers will include KA1QXI/AA on sleep deprivation and contesting, KQ2M on the HD5X Contest DXpedition to Ecuador, K1EA's famous CW copying contest, and KY1H on NETROM and the YCCC packet network.

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

The meeting dates for 1988 are:

DATE	DAY	DELI-LUNCH
February 6, 1988	Saturday	11:30 AM
April 9, 1988	Saturday	11:30 AM
June 5, 1988	Saturday	11:30 AM
August 6, 1988	Saturday	Lakeside Bar-B-Que
October 1, 1988	Saturday	Boxboro
December 4, 1988	Sunday	11:30 AM

Note that the October meeting will be at the ARRL New England Division Convention at Boxboro.

Reserve your place at the club pre-meeting luncheon (\$9.25) by letting KQ1F know before noon on Wednesday, February 3rd. Contact her as follows:

Charlotte Richardson

11 Michigan Drive

Hudson, MA 01749

(617)562-5819 (home phone with answering machine)

(617)568-6588 (work phone)

## Secretary's Report

### Yankee Clipper Contest Club

The December YCCC meeting was held at the Sheraton Sturbridge on 6 December 1987 with 75 members, their families, and many guests in attendance. After introductions, Frank Witt, AI1H, spoke on wide-band antenna matching systems for 80m. See his October, 1986, **QST** article, and watch for another article in an upcoming issue of **QST**.

The club welcomed fifteen new and returning members:

John H. Thompson, W1BIH  
Victor Bennison, N1BUE (now N01I)  
James Reisert, AD1C  
Ken Loynes, N1EMG  
Bill McGowan, KC1EO  
Bill Acito, Jr., KC1GS  
Bruce Rusch, W1HNZ  
James Bowman, KS1J  
Art Allen, KY1K  
Dave Mackey, K1KA  
Paul S. Grupp, KA1LR  
Lanny Bailey, W100  
Rolf Seichter, KE1Y  
Charles Morrison, KD2SX  
Paul Obert, K8PO

Jeff, NK1F, the Club Scorekeeper, reported on club results so far for the CQ WW. With many scores still outstanding, our club total is already 114M. This was helped out by many Caribbean (and other) DX-peditions for the CW contest: one seventh of the KP2A score, PJ2X, PJ7X, HD5X (around 9.2M! - by KQ2M), 4U1ITU, and 4U1UN (2.5M, by NJ2L).

The Treasurer's Report showed a balance of \$265.45.

The club has new local area managers for several areas: In EMA, Bill, N1AU, replaces overly-busy Al, W1FJ. In CT, Gene, K1RU, replaces busy Mark, K1RX. In NNY, Fred, K2TR, replaces Ira, K2RD, who has moved to 3-land.

Bill, KM1C, reported that he wrote to the NCJ about score reporting for club sponsors so clubs can get lists of contributors to the club aggregate score, as he wrote about in the last **Scuttlebutt**. He also suggests an East Coast and West Coast scorekeeper on 3830 after major contests and for a couple of evenings afterwards to collect the scores and relay them to the NCJ. He reported that packet software is available at a discount from Dick, AK1A, for club members: the PCBS software, regularly \$100, can be had for \$70, of which \$10 will be donated to the club treasury, and the Packet-Cluster software, regularly \$70, for \$50, with \$10 donated to the club treasury. Dick supports this software and supplies updates when there are changes. Bill is also working on reducing the **Scuttlebutt** printing and postage costs, consulting with Cushcraft and **Ham Radio** magazine. Al, W1FJ, may get the club a cheap or free overhead projector. Dwight, AI3E, brought a stack of NCJ surveys for members to fill out and mail to the NCJ. Dana, K1RQ, proposed that the club raise dues to \$15 per year to cover the cost of the club meeting room, and then raffle off tickets to the pre-meeting luncheon, or subsidize the luncheon. Ed, NT2X, is once again taking orders for club jackets.

After this business meeting, Bill, K1MM, last year's winner, presented this year's Contest Quiz (see elsewhere). It was won by Stu, KC1F, with 78% correct, who will write next year's quiz.



Mark, KF1V, spoke on his PJ7X DXpedition to St. Martin for the CQ WW CW. He also traveled to St. Martin as P47A in 1981. Mark had rig problems but brought in around 2.5M.

The 50/50 raffle netted \$26 for Jeff, NK1F.

Ed, WA1ZAM, reminded members to send in information about their DXpedition plans to the Scuttlebutt ahead of time, so that members know to wait out the pileup a little longer to work club members.

The club welcomed the Mysterious Visitor from the East, Eimac the Magnificent, and his amazing mental feats!

Paul, K1XM, showed slides of the PJ2X DXpedition. Rig problems shut this expedition down after less than  $\frac{1}{4}$  of the contest, when Paul was finally unable to affect any more emergency repairs to his TS-930S, but he had many beautiful underwater slides, and was able to show W1BIH slides of his house and antennas taken the week before, resting fears of what state John would find his vacation station in when he arrives there next month.

Following this, Bill, N1AU, showed slides and a brief videotape of his visit to the Soviet Union.

After this, members adjourned to Rom's and other eateries for much-needed refreshment!

Respectfully submitted,  
Charlotte L. Richardson, KQ1F  
Secretary/Treasurer  
7 December 1987

## Proposed Bylaws Change

Bill Pedersen, KM1C

Please read this issue's editorial as to the reasoning behind the following proposed Bylaws change to be voted upon at the February 6, 1988, meeting of the Yankee Clipper Contest Club.

Bylaw Number 6 of the YCCC Constitution shall be changed to read as follows:

"6. DUES. An annual dues assessment of \$15.00 is hereby levied pursuant to Article VI of the Constitution to meet current club operating expenses. Family members residing at one domicile shall enjoy membership on payment of one member's annual dues. This will grant full membership to all amateurs in said family and entitlement to the club newsletter, single copies of which will be sent to one domicile. Students shall enjoy full membership upon payment of one half of the annual dues assessment. Subscription-only membership will be available for an annual payment of \$10.00. [as amended 6 February 1988]

Constitution and Bylaws enacted 9 April 1977 and amended 19 January 1980, 12 April 1980, 5 April 1986, and 6 February 1988."

## CW Contester's Critique

### The ICOM IC-761 HF Transceiver

Bill Myers, K1GQ

Recently I've been considering the choices for upgrading to a higher-performance transceiver with a computer interface. The two candidates based on specifications are the Kenwood TS-940S and the ICOM IC-761. Mark Wilson, AA2Z, was impressed by the receiver performance of the ICOM, and arranged for me to borrow the unit he tested for a few weeks. I really want to like this radio, but I can't, and this article explains why.

Higher performance means better synthesizer performance. I've complained in print before about the mediocre carrier-to-noise ratio of the Kenwood radios, and operating two of them side-by-side in the CQ WW this year highlighted the problem. Not only did we have to put up with clicks and noise floor modulation generated by the receivers, but we also endured inter-radio interference caused by IF signals leaking out of one box and into the other. Laboratory tests have indicated that ICOM synthesizers are as much as 10 dB better than the rest of the pack. If so, I would be willing to adapt to almost any functional deficiency to obtain the improved receiver and transmitter performance.

The ICOM receiver is indeed noticeably better than my TS-930S. Clicks and noise floor modulation are much less intrusive, indicating that ICOM really does have a better handle on low-noise synthesizers (more on this later). Spinning the dial across 10 meters produces no synthesizer pops or birdies, only real signals. The transmitter is cleaner too, as judged by listening to both radios with a 75S-3B. The Kenwood generates more noise, and has discrete spurs that simply aren't there with the ICOM. Of course these are qualitative tests. I decided not to attempt laboratory measure-

ments because I felt that if I couldn't tell the difference without a meter, the difference wouldn't be worth pursuing. I concluded that the improved carrier-to-noise ratio offered by the ICOM is worthwhile, and proceeded to examine other aspects of the radio that are important to a CW contester.

The ICOM AGC is more to my liking than the Kenwood AGC, for two reasons. First, the FAST time constant AGC, which is necessary for serious CW ops, doesn't thump at all. Second, the AGC has *depth* – stronger signals sound louder. The Kenwood AGC is too flat, forcing all signals above the threshold to the same audio output level. With the ICOM, it is easier to dig out weak signals sharing the passband with stronger signals, and to compare antenna A and antenna B.

The ICOM sensitivity is adequate, even without the built-in preamp turned on. There is only one attenuation selection, 20 dB, which isn't enough choices. IN general operation on the low bands, 10 dB is appropriate, and I needed 30 dB a few nights ago on 160 meters to push the third-order intermodulation products below the noise floor. But I can live with one choice.

Selectivity is comparable to the Kenwood, with the bonus of IF SHIFT tuning in addition to a variation of the Kenwood VBT. The ICOM PBT mode squeezes the passband in from either the high side or the low side, but not both. This degrades the skirt selectivity, as it does in the Kenwood. The IF SHIFT mode moves the center of the passband without changing the passband width. I have preferred the IF SHIFT approach for over thirty years, since I first used it in a radio nobody ever heard of (model 2C ring any bells?). It pushes interference out of the way without changing the pitch of the desired signal. A narrower passband would help though, and ICOM has the answer: their super-narrow 250 Hz filter set plugs in easily and provides three dual-filter bandwidths as contrasted to Kenwood's two.

The IF SHIFT mode has another feature that I like, although others may not. Selecting this mode introduces a very small amount of leakage in the stopband, because the 9 MHz filter is bypassed. S9+30 dB guys outside the passband are just audible, so I can monitor what is going on near my frequency without tuning the radio. Since the leakage is high-pitched, it is easy to ignore. Unhappily, switching out the first IF filter also seems to degrade the dynamic range – I hear more beeps and blurbles characteristic of third-order intermodulation products.

The various VFO, memory, RIT, XIT, etc. functions are all there, although they operate a little differently than in the Kenwood radio. There is no TF Set button,

but it is easy to reverse receive and transmit VFOs when operating split, or to listen on the XIT frequency. It is possible to clear the offsets while transmitting (the TS-930S won't do this). It is also possible to add the offset to the selected VFO and then clear the offset, and to transfer the frequency in the unselected VFO to the selected VFO.

The ICOM doesn't have dedicated buttons for bandswitching, but the convenience can be approached by using memories. The UP and DOWN buttons cycle through the ham bands unless the transceiver is in general coverage mode. Unfortunately, the cycle includes all three WARC bands, and the radio presumptuously resets the KHz component of the frequency to a useless value, roughly 50 KHz above the band edge in most cases. The Kenwood scheme – leave the KHz component the same – is far more useful. The frequency display shows the transmit frequency, which is the right choice.

The CW offset in the IC-761 is fixed at 700 Hz. This is terrible. Of the six CW operators that were here in November, five set the pitch control between 300 and 400 Hz. I routinely use 400 Hz when listening on the speaker, and 300 to 350 Hz when using headphones. Both the sidetone pitch, used for spotting, and the receiver BFO frequency are adjustable. I removed 22 screws to get the clamshell case off, only to discover that the sidetone won't adjust lower than 550 Hz. Component changes would be needed to fix this deficiency. The side tone is a pure sinusoid – radio manufacturers seem to have forgotten that a tone with some harmonic content is much easier to endure for long periods.

Spotting without transmitting is awkward, just as it is with an unmodified Kenwood. I'm resigned to inventing a fix for this problem in any new radio. There are several candidate switches on the ICOM including the TS switch. This is a double-pole double throw switch (unfortunately, it latches) which changed the tuning speed to 1 KHz per step. It's in a good position on the panel for a spot switch, and performs a function I can live without. By the way, the tuning rate is normally 10 Hz per step, with automatic speedup to 50 Hz per step when the knob is spun fast. There are 200 steps per turn, yielding a slightly-too-slow 2.5 KHz/rev.

One of the marvels of the Kenwood radios is the attention to CW transmit-receive transfer timing. It's not nice to open the relay line to the amplifier before the RF excitation goes away, but too many radios do just that. I put a dual-trace scope on the ICOM and came up with the sequencing shown in Fig. 1 with the ICOM in full breakin mode. Note that the amplifier has about 8 ms to get the relays closed before the RF arrives, and is held in transmit mode for about 4 ms after the RF goes away.

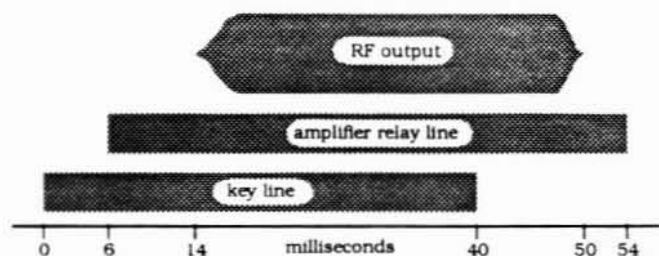


Figure 1 IC-761 T/R Timing

This is fine. But also note that the RF is present for less than 36 ms whereas the key is down for 40 ms, one dot at 30 wpm. This is not fine. I had to crank the weight up to 60% on my KC Keyer to make the CW coming out of the ICOM sound normal. This makes the CW monitored by the sidetone sound very mushy. Thus another modification is needed to make the ratio of RF on time to key down time equal to one at any speed.

The full breakin mode sounds a bit thumpy due to sidetone transients, but the receiver blanking is perfect. The transmitted waveform 80% rise-time is about 3 ms, and the falltime is 2 ms. This is a bit hard, almost bordering on objectionable depending on your tastes. The amplifier is keyed through a totally inadequate relay, with no provision for disabling the relay and keying with a transistor (yet another modification). Not only is the relay loud and distracting, but it is rated at only 50 vdc. My SB-220/221 amplifiers measure 124 volts key up at the relay jacks, my Alpha 77 measures 57 volts, and Dick's Alpha 76A shows 27 volts. ICOM blew this one.

The ICOM documentation is wonderful, except for one thing. Neither the Instruction Manual nor the Service Manual provide any information about the functionality supported by the computer interface. It is some sort of CSMA system that can interconnect several devices, but there is no clue as to what a computer can tell the IC-761 to do. There isn't even a clue as to how to find out.

Okay, there are a few modifications needed. None are particularly difficult, so where's the beef? Back to the synthesizer, which is difficult to modify. Using the ICOM with the transmit frequency offset from the receive frequency more than 0.3 KHz severely degrades the transmitted signal. The signal developed trashy-sounding clicks and even some chirp, with the effect getting worse as the offset increases. It doesn't matter whether the offset is created by split VFOs or RIT/XIT. The consequence is that breakin is totally unusable for split mode operation (where you need it most) unless you have no regard for your fellow hams. By way of contrast, I can transmit on 160 meters and receive on 10 meters in full breakin mode with the TS-930S with no perceptible effect on the transmitted

signal.

The culprit is the synthesizer, which simply can't change frequencies in the 14 ms available between key down and RF on. In fact, I can hear the loop still homing in during the one in my callsign at 30 wpm. Acquisition time and carrier-to-noise ratio are conflicting characteristics for synthesizers. Kenwood has emphasized the former, and ICOM the latter. The ICOM design includes a variable-bandwidth loop filter which is supposed to ameliorate this compromise by speeding up the acquisition time (degrading C/N ratio) when large frequency changes are imposed on the synthesizer. Evidently, this technique doesn't quite do the trick, and I suspect that the only acceptable solution is separate transmitter and receiver synthesizers.

I really want to like this radio, but I can't because of the poor transmitted signal quality when operating split in full breakin mode. But the receiver performance has spoiled me – the TS-940S now seems unlikable too. So, I'm going to wait for Dayton and see if the rumors yield any new hardware to evaluate.

## Packet Problem Fixes

Dave Robbins, KY1H

The AK1A PCBS, AK1A Packet Cluster, or KY1H conference software operating on a multi-connect TNC is a fairly new use for packet radio. The original design and implementation of the AX.25 protocol was based on a one-to-one connection. The timing and channel busy checking systems were designed around this idea. Unfortunately when the multi-connect TNC was developed, it kept the same basic timing parameters and retry scheme. This has caused several problems that affect the smooth operation of a multi-connect system where messages are broadcast to many users at the same time.

I highly recommend that the solutions to the following three problems be implemented as soon as possible by all system operators and users. If you have another type of problem that is not fixed by one of the following, please let me know.

Problem # 1: One user stops the whole system.

Explanation: This can occur several ways:

- With a PK-64 if you connect to the conference system with one channel and then switch to another.
- With a Kantronics, MFJ, TAPR, or TAPR Clone TNC if you have the flow control set so that when you type the first character of a line it stops output from the TNC.



- RF gets into the TNC or computer.

Any of these can cause a user's TNC to get into a 'busy' state. This causes it to start storing up packets sent from the conference system until its buffer is full. When its buffer is full, it starts refusing packets from the system TNC. The system TNC then starts to fill up with unsent packets until its buffer is full, when it stops accepting data from the computer and everything stops.

#### Solutions:

**Users:** Users must be careful to not set up one of the conditions above. In particular with PK-64 TNCs, only use one channel if you are connected to a conference system. Users of other TNCs must remember to not stop in the middle of typing something if flow control is turned on. Make sure that RF does not affect your TNC or computer.

If you are on a stuck conference system and can monitor its output directly (without a digipeater), check for a continuous retry of the same packets to one station. If the same packet is retransmitted more than fifteen times, that station is probably stuck. As a last resort, you can change your callsign to that of the stuck station and connect to the system again; this will usually allow the system to dump the stuck packets to you and free up its TNC. When the dump is complete, disconnect from the system normally so it will not try to reconnect to the stuck station. Be sure to put your call back to normal.

**System Operators:** At present there is no easy way for a conference system operator to recognize this in time unless they monitor channel status frequently. If an offending station is recognized and disconnected in time there will be no other affect on the system. If not stopped in time, the least disruptive solution seems to be to turn down the receiver audio so that the station times out and the system buffers can clear. Unfortunately, this usually results in several stations timing out in addition to the one that causes the problem, but does not prevent loss of other data.

**Problem #2:** Two or more users keep timing out together.

**Explanation:** If two or more users can't hear each other, they will each wait a preset time and then send their ACKs. Unfortunately, the random delays built into TNCs are not adequate to prevent collisions in many cases. If nothing else happens to disrupt the timing, the packet will be sent again by the system TNC. This keeps repeating until the system TNC gives up and assumes the users are gone.

Most TNCs default to about a one second delay after receiving a packet to send the ACK back. If each

station connected to a conference had a different delay, there would be no collisions and data would flow much smoother. Since most TNCs have a retry timer default of 4 seconds, a spread of values between 0 and 4 seconds could be used.

#### Solutions:

**Users:** The parameter that must be changed is called 'RESPTIME' on TAPR-style TNCs. It may be called other things on other TNCs, so read your book and find the command that will change the delay on acknowledgment packets. Pick a new value for this delay based on the last letter of your call by the following formula or one agreed on locally.

$200\text{ms} + (145\text{ms} \times N)$  ( $N = A=1, B=2, \text{etc.}$ )

Be careful of units; the KPC-2 and KPC-4 specify 'RESPTIME' in 100ms units, so for KY1H the delay would be 1360ms, and the command would be 'RESPTIME 13'. This formula provides for delays from 200ms to 3970ms, which is just under the normal retry timer of 4 seconds. If your ACKs don't get through at all check with the system operator to make sure that the system retry delay is not too short.

**System operators:** If you see this happening direct some users to change their delays. In particularly busy areas, you may want to increase your retry delay to allow 5 or 6 seconds for ACKs to return instead of the normal 4 seconds, and change the formula above to spread out ACKs more.

**Problem #3:** A user with a normally good path ends up with several retries when sending announcements that go to all users.

**Explanation:** Because of the OAK delay ('RESP-TIME', as discussed above) of the system TNC, the OAK for the announcement is delayed. During this delay, the announcement is processed by the host computer and sent to the TNC for retransmission. Now, the TNC has to send all the other users the announcement before it gets to send the OAK to the originating station. If there are many users or the announcement is long, the TNC of the originating station will think it didn't get there and will send it again. This can also result in loss of the ACKs from the user users and more retries.

#### Solutions:

**System operators:** Reduce your delay on sending ACKs to zero so they are sent before any output generated by the user's input. This is the same 'RESP-TIME' command discussed in #2 above.

**Users:** If you notice this happening, you can increase your retry timer so that the system OAK has more of a chance to get to you. I don't have a good number to make it, since this is hard to simulate, but try increasing it by one second intervals until you don't

retry when sending announcements. If you listen to the output of the system after an announcement is sent and time the length of the longest transmission (I have heard them go on for as long as 10-15 seconds), and set your timer to that plus one second, it should be good. If your system operator has done their part above, you should not have to do this.

## Short Wave Listener Magazines

Tom Frenaye, K1KI (info from AK7M)

Glenn Hauser publishes two SWL magazines / newsletters, each about 40 pages long. One has lots of good stuff for people interested in listening to SWL programming, carries summaries of BBC schedules, etc. - It is called "Review of International Broadcasting", and has been published since about 1977. The other is aimed at the SWL DXer who wants to hear every weak signal from every small country and is called "DX Listening Digest". Send a self-addressed stamped envelope for more information or \$2 for a sample copy to Glenn Hauser, Box 1684, Enid, OK 73702.

Sources of more "glossy" magazines are **Popular Communications**, by Cowan Publishing in NY, available at newsstands, and **Monitoring Times**, published by Grove Enterprises, 140 Dog Branch Road, Brasstown, NC 28902 (telephone is (704)837-9200).

## Contest Quiz

Bill Poellnitz, K1MM

### "Know your competition"

1. What are the present FCC callsigns of these famous contesters?

K2KUR WA2LQZ JE1JKL  
ON4UN N0VA 18MPO

2. Who holds the following contest records? ( $\frac{1}{2}$  credit for correct call area)

ARRL UHF CQWW Phone (USA)

3. What callsign did these operators use in the 1974 CQWW Phone Contest?

WA1ABW, WA1JYY, K1OME, K1ZND, WA2AYC, WA2EAH, WB2OEU, WB2OHZ, and WB2SQN.

UR2AR, UR2CW, UA9AN, UA9AEN, UW9BY, UV9AB, UA9AAZ, and UA9CBO.

### "Know your equipment"

4. How many knobs/switches are on the front panel of the following? (plus/minus 3 is acceptable)

Kenwood TS940S Argonaut  
Kenwood TS830S Midland 13-509  
Ham II Control Alpha 76A

5. Which of the following radios cover 160 meters? (Circle answers)

TR-4C FT-101B Atlas 210X  
TS-830S Viking Ranger DX-60B

"Repeat the name of your dog ... I didn't get your dog!"

6. What exchange would you expect to receive from the following stations in the named contests? (Assume you are operating from W1AW.)

CQWW Phone ARRL 160M

KH3AA  
BY0AA

7. Fill in the missing character in these well-known contest stations:

YU1\_XY G\_UW P\_2TMS  
LZ\_KDP \_U8DQ 15NP\_

8. What is the suspected native language of an operator using these phonetics to make sure you get his callsign?

Xylophone Rima

"But what's your country?"

9. What are the telltale reciprocal callsign formats in these countries?

New Zealand Japan  
Ireland Brazil

10. What DXCC countries host these unusual callsigns?

WH1CH WH0M  
RX7GSL TH6DXX  
XJ6L XR4TI

11. You're using an FT-101 for CQWW. Fix these "busted" calls (CQ zone is OK)

ZS3LB (zone 38) EI3OQR (zone 14) TY5EG (zone 11)  
VK6SH (zone 29) 6Y5RA (zone 24) KC6XX (zone 31)

## Answers:

1. K2KUR is N2AA WA2LQZ is K1AR JE1JKL is NH6J  
ON4UN is AA4OI N0VA is KV4FZ 18MPO is KA1NOL

2. The ARRL UHF record is held by WB2NPE. The CQWW Phone (USA) record is held by K1AR.

3. WA1ABW, WA1JYY, K1OME, K1ZND, WA2AYC, WA2EAH, WB2OEU, WB2OHZ, and WB2SQN operated from W2PV.

UR2AR, UR2CW, UA9AN, UA9AEN, UW9BY, UV9AB, UA9AAZ, and UA9CBO operated from UK9AAN.

Kenwood TS940S: 67 Argonaut: 9  
4. Kenwood TS830S: 30 Midland 13-509: 4  
Ham II Control: 5 Alpha 76A: 11

5. The FT-101B, TS-830S, and Viking Ranger cover 160M.

CQ WW Phone ARRL 160M  
6. KH3AA 59 31 599  
BY0AA 59 23 599



7. YU1EXY G6UW PA2TMS  
LZ1KDP LU8DQ I5NPH
8. "Xylophone" is Spanish; "Rima" is Japanese.

9. New Zealand: ZL0\_ Japan: 7J\_  
Ireland: EI\_V\_ Brazil: \_nZ\_ (eg. PP2ZDD)

10. WH1CH: Baker Is. WH0M: Saipan  
RX7GSL: USSR TH6DXX: France  
XJ6L: Canada XR4TI: Chile

11. ZS3LB in zone 38 is ZS5LB.  
EI3OQR in zone 14 is GI3OQR.  
TY5EG in zone 11 is PY5EG (or ZY5EG or ZZ5EG).  
VH6SD in zone 29 is VK6HD.  
6Y5RA in zone 24 is BY5RA.  
KC6XX in zone 31 is KH6XX.

## Another Shunt-Fed Tower Article

Jack Schuster, W1WEF

Although I haven't done any serious contesting on Top Band since shunt-feeding my tower last fall, it seems to be playing better for me than anything else I've tried. I thought there might be some interest, so here's what I've got.

The Friday night before I had planned to try shunt feed, I worked Jon, AA1K. It turned out that his top loaded tower was similar to mine, so I used the same dimensions he did, and it almost played without tuning. My tower is 100 feet with a TH7 on top, TH3 part way down, and various wires off the tower. All of my guys are broken up with insulators.

Using 2-foot lengths of 1" PVC pipe with a Tee fitting on one end, I spaced the gamma wire 16" from the tower. One hose clamp holds each PVC standoff to a horizontal member of the Rohn 25 tower. The PVC standoffs are spaced 20 feet apart. Although my original intent was to thread the no. 6 stranded copper through the Tees, it was easier to tape it to the outside with its tendency to coil up. The shunt is grounded to the tower using a hose clamp at 95 feet. The bottom end has an insulator a foot or so from the ground, and is tied to a stake in the ground to keep it taut and straight.

The bottom end of the "gamma wire" is fed through a series capacitor with 50  $\Omega$  coax. To determine what size capacitor I needed, I temporarily used a close-spaced 350 pF variable, and set up my SWR meter at the base of the tower. When I fed low power to it the first time, the SWR was almost 1:1, because by chance the capacitor was already set to the right value! The measured capacitance turned out to be something like 115 pF. I could get away with this capacitor running barefoot, but not with the amplifier. At the suggestion of N1JW, I used what is apparently an old idea (but new to me) for a cheap but effective high-voltage capacitor. I substituted a length of

RG8U coax (polyethylene dielectric - not foam) for the capacitor. About four feet of RG8U provided 115 pF capacitance between center conductor and shield. The value could be fine-tuned by stripping 6" of the outer jacket and sliding the shield on the dielectric at the opposite end from the connections. The shield was then taped in place at the required location. The coax gamma capacitor was coiled about 8" in diameter and packaged inside a plastic freezer container with two female coax connectors. The freezer container sits on the tower about a foot off the ground.

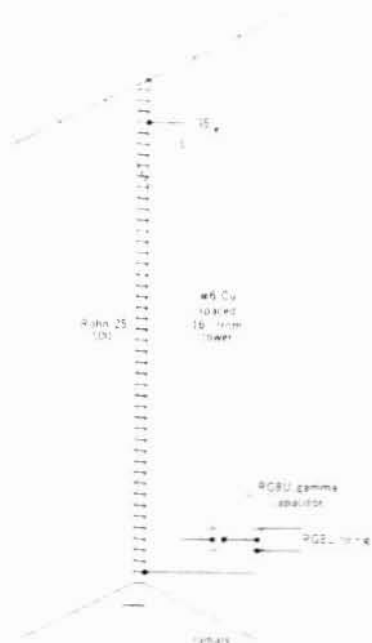
Shunt feed makes a nice neat installation, except for one factor - the radials that run all over the yard. I have about 50 quarter-wave radials so far, but want to add about 50 more. Fortunately, most are in the woods. They attach to the base of the tower using three large electrical lugs similar to what you find in a breaker box where 200 amp service entrance cable ties into the box. I have one of these lugs bolted to each tower leg.

Bandwidth is a little better than 50kHz between 2.0 SWR points. I plan to experiment with broadening the bandwidth by paralleling one or two more shunts, spaced away from the single conductor I presently have.

I found I wasn't as lucky when I tried shunt feed on 80m. It took a lot of experimenting to find where to shunt the tower in order to be able to tune it with a gamma match, and this meant going up and down the tower every time to try another spot. It turned out that it tuned FB at 35 feet. However, on-the-air comparisons to my 55 foot dipole showed no advantage, so I abandoned the idea on 80.

I did not try an Omega match, or follow any of the published formulae as in ON4UN's "Low Band DX-ing". Perhaps if I did that, the 80m results would have been different.

I did get a lot of on the air encouragement and practical advice from my old friend Marty, W3YOZ, which was most interesting and helpful.



## Russian Advice

Translated by Ed Kritsky, NT2X

The following is an excerpt translated from **Around the World on an Airwave** by V. Benzer (UC2AA) and V. Ledenev (RC2AF), 1986, pp. 148-150.

...Perhaps this advice (resulting from experience of several generations of amateurs) could help you resolve some problems. Some advice is of humorous nature, so don't take it too seriously, remembering though that a joke may get you out of a conflict situation.

- Never forget that your wife is your best assistant during the contest season. A cup of coffee brewed by her loving hands will raise your spirits and help you to achieve a better result during the contest.
- In case of family arguments (the ones caused by ham radio) don't be afraid to go to the extreme – promise your wife that you will abandon it once and for all – and try to keep your word for a week or two, catering to her every whim.
- Ham radio and radiosport take time away from your family, so make sure that you get your wife involved in it, too.
- If you fail at that, voluntarily take care of the most unpleasant household chores and do everything yourself.
- When things get hot because of your hobby during the summer season, offer your wife a trip for two to the Côte d'Azur, Hawaii, or at the very least a backpacking trip in the woods. This is extremely effective if you know that she won't get time off from work now.

- If you have children, get them involved with ham radio from an early age. Nothing can be more heartwarming than the sight of a trashed radio or QSL cards scattered around the house – such are the first ham radio steps of your offspring.
- Do not feel intimidated about expressing envy of a ham radio buddy whose wife is an angel living only so he can work more countries. Some guys have all the luck!

A word of wisdom for 'ham radio' wives:

- If your husband is absorbed by amateur radio, don't cause problems for him; just try to understand what it is all about.
- Never forget that your hubby's hobby is a HOME hobby. A husband spending most of his free time at home should be used accordingly.
- If you can't take it anymore don't rush to burn all bridges – just imagine your husband in the company of his drinking buddies, on frequent business trips, or among the girlfriends of his unmarried friends – you'll feel a lot better.
- Do not push your luck; remember that love for radio may be stronger than love for a haggling wife.
- With your husband present, advertise his latest ham achievements in front of your girlfriends – the next day, instead of chasing DX he will be doing laundry and mopping floors, not to mention the tasty dinner he'll cook.
- Do not attempt to bring order to the immediate vicinity of the radio station – this constitutes a violation of sovereignty. Lovingly collect garbage instead, drop it next to the radio and provide a bucket – by far the most effective way to clean up the shack.
- Radio amateurs are devoted and steady men, so if you wouldn't ruin your marriage for little reasons you'll be happy for the rest of your life!

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## Contest Packet Net Operating Suggestions

Dave Robbins, KY1H

To help smooth the flow of information on the packet net during a contest, I have compiled the following suggested operating practices. Many of these may seem obvious to the experienced user but not everyone is

on packet for everyday use or every contest. Please read them all and take them into consideration during contest weekends.

1. If you are going to have packet set up just for a contest, do it early. TNCs and computers generate and are susceptible to RF; a good grounding and shielding arrangement is a must and is not always quick and easy to do. The best paths to the network must be found and operators made familiar with how to run the computer and TNC before the contest starts. Test your system for RF problems on all bands and all antennas.
2. Use the shortest path possible to a Cluster Node or the KY1H Conference.
3. Learn the commands before the contest. If you have any questions ask early since the system operators may not have time to respond during the heat of battle.
4. Look before sending a DX report; sending dupes can really slow down the net when there may be something better out there. Sending a repeat for a small change in frequency is not always necessary; pileups are good markers and fairly broad.
5. WWV reports every hour aren't really needed, but the ones on 3 hour intervals when the 'K' index is updated can be useful (0018Z, 0318Z, etc.). If there has been a report in the last hour don't send another unless it is one of the new 'K' index times.
6. If you missed some DX reports because you disconnected and think you really need to review them, only review the last 5, then decide if you really want to see more. Asking for a dump of the last 20 on each band wastes too much air time even at 1200 baud and will probably give you many stations that have moved or faded out.
7. Keep the chatter to a minimum during busy times. It takes time for a DX report to get ACKed by everyone and sending something during that time may result in added overhead for retries. There is plenty of time for profound comments in the middle of the night when you are trying to stay awake.
8. Think about the relative importance of your report before sending it. A G4 on 15, 20, 40, or even 80 meters is not much help because everyone will probably work them anyway. But the FIRST one on 10 meters may mark the opening of the band to Europe and alert everyone to other possibilities.
9. Using announcements to shotgun questions should be minimized. Sending the question 'WHERE IS THE BY ON 20M?' has probably already been answered in a report you missed, or else they haven't been found yet.

10. Respond to an announcement like #9 by sending a DX report, not using talk or another announcement. This lets everyone see the answer and everyone then knows the answer themselves in case they were going to ask the same question. If you don't have a good answer don't send anything.

11. SOMETIMES it can be important that a rare station answered your CQ. If the station is relatively weak or may be missed because he has a tough call sign, then send the report giving your CQ frequency and the comment "ans my CQ" or something similar. A good example is someone like WB4XXX/DU who is weak in the JA run; if you don't realize he is signing /DU you might brush him off as just another W4 and miss an easy multiplier. Another good example would be when VS6DO calls you on 15m longpath while you are working Europe or Africa; that might let others know there is an opening that way.

12. If you are taking a long break, disconnect from the system. This helps speed up the net for everyone else and minimizes the chances of your TNC or computer locking up the system. When you reconnect, review just the last 5 DX reports if you really need to know what's going on right then. Use of MONITOR commands while disconnected can provide a way of keeping up to date on what's happening also.

## NP4A – The Hard Way A Three-Part Trilogy Part Two Jeff Briggs, K1ZM

(Author's Note: In the last **Butt**, I described the first part of what was supposed to be a routine visit to NP4A to operate the 1987 CQ/160M/CW contest. All seemed simple enough until a major snowstorm got in the way. In this issue the story continues with me stranded at a closed JFK airport looking to find a way, ANY way to get to San Juan for the test! – K1ZM)

Having arrived at JFK airport and then having learned that it was closed due to the snowstorm, I was more than depressed. After what I had just been through getting out there, it was even worse than losing to K1AR in a DX TEST – I mean, I didn't even get into the pileup!

First thoughts were about my wife and what had happened to her. She was supposed to meet me at JFK from Phoenix but, obviously, she wasn't there. The airport had closed at 1:00PM. Had she even left Phoenix? Did she get diverted to another city? There really wasn't any way to find out. I tried calling her airline but, here too, I met with frustration hearing recorded messages like "Due to the storm, all circuits are busy now – please try again later."



I looked around the American terminal and all I could see was a HUGE line – over 200 people all waiting for one ticket counter agent to answer questions about airport information, re-routed flights, etc. It was by now 6:30PM and since I didn't have anything better to do, I got on the end of it. Let me tell you, this was some pileup – probably the biggest I've ever been in – after two hours I hadn't even found the listening frequency! I was still about #50 on the list. By around 9:30PM I finally got to the ticket agent who was a diminutive Hispanic girl. I asked her when I might expect to get to San Juan and she said something like "You want w-h-a-a-a-a-t, honey? Get serious! Like man, it's snowing outside!"

Since I'd waited three hours to get to talk with her, I figured I'd get my fair share of her time. I told her that I really HAD to get to San Juan on the first flight out the next morning. I told her I had an important International telecommunications conference to attend in Ponce. For some reason this piqued her attention – she asked me what kind of teleconference? I explained that people from all over the world would "attend" starting at 6PM Ponce time and that the conference would last 42 hours or until Sunday at 12 Noon. I explained that this was an annual event and that I would be representing a senior, respected member of the Ponce community – so that it was most urgent that I be there on time for this International event. She seemed very impressed and then, speaking on a hushed voice, told me that of all the complainers she had dealt with in the past six hours I was the only one who had been nice to her and who had treated her with respect. She whispered that the plane directly outside the window behind her would be the first plane out the next morning and that (just for my ears) it would be going to San Juan. It was the 4:00PM flight that had been canceled when the airport had closed.

I asked her how I might get on it? Could she book me a seat? She said no, that due to the storm the 12Noon and 2PM flight passengers would get first option and I was 6PM. But that if I would come back at 12:01AM I might be able to get lucky and get on as a standby. She pointed where I'd have to go. Lastly, since I was really beat, I asked her where I might get some sleep – (I had to be prepared for the International conference you see). She told me that since the airport was closed, the gate area was shut off, the only place was the floor – what a deal!

By now it was approaching 10PM. As I looked around me I noticed there were two distinct groups of people stuck in the airport with me. The first was a group of about 100 Joselitos wanting to go either to San Juan or to Santo Domingo – for what I wasn't exactly sure! (I knew it wasn't for the International conference!) The other group was made up of several hundred wanting to go to Los Angeles for the Super Bowl game. They

were leaving early for L.A. and were really pissed about being stuck out at JFK. I joined them and after a few beers we all became really "pissed" together.

About 10:30 I decided to crash for an hour or so – but where? Forget chairs – there were over 500 people in the American terminal. So I went up some stairs, found some "prime" dry floor space and lay down next to a guy who looked relatively harmless. My London Fog became floor cover, my briefcase became a footrest and my luggage a very poor pillow. I asked the guy next to me to wake me up at 11:55 so I could get on the standby line.

I got up on time after a fitful sleep and found what I thought was the standby line. It was where I had been advised to go anyway. When I reached the head of the line disaster struck again. I was told that standby reservations had been taken starting at about 9PM and that I would never get on the flight now – I would be too far down on the list.

Well, it was time to sling a little 'zulu mouse' B.S. I explained that the other ticket agent had told me to report at 12:01AM and it seemed like a prima facie case of one hand not knowing what the other was doing – after all, I was a banker on a business (monkey business) trip, an American frequent traveler, and, besides, there was the International Conference I had to attend. (I'll have to admit it was getting pretty thick, even for me, at this point.) But, the girl bought it, asked me for my American frequent traveler ID# and put me up to #6 on the standby list. She had used some override code to "jimmy" the computer system for me. This was the first good news I'd had all day. I asked what gate number and time so I could get there early. Then I decided to try to figure out what had happened to my wife.

I called my father-in-law who explained that Miriam's flight had indeed left Phoenix and had even made it as far East as Philadelphia but had been diverted back to Phoenix when JFK had closed. What a bummer! I called Miriam's hotel in Phoenix and we decided I should try to make it alone to Pedro's. She'd never make it to NY in time anyway and, if I waited, I would miss the 6PM start of the contest. In the end she was met by her father in New York and got home Saturday afternoon. There was 14" of snow in our driveway when she arrived, however. I also gave Bill, K2EK, a call and explained what was going on – he lives close by and he told me it had taken him four hours to get home from Stamford, Conn. – a distance of 45 miles and normally a 55 minute trip. He also said it was 10 degrees outside and snowing like a mother! I told him I'd look for him on 1.832Mhz five minutes before the start of the contest if and when I ever made it to Pedro's place.

After this, I again crashed upstairs with my HI8/KP4 buddy. I'm not sure I ever really got to sleep - worrying about the flight, extreme fatigue, a very uncomfortable sleeping position all contributed to a very restless four hours. I may have caught one useful stretch of about 30 minutes at one point - I really do not remember.

Around 6AM I noticed that the gate area had reopened and I decided to make my way down there. I took all my stuff and parked literally on top of the gate attendant's desk - the idea was to be first in line in the pileup that was sure to come.

Gradually, others showed up and around 7AM an attendant appeared. When she opened up I handed in my standby ticket, explained my situation and inquired exactly how the standbys were going to be handled. She said "not to worry", it was all in the computer and I'd make out just fine (famous last words).

As it neared boarding time, there must have been 750 people all waiting to get onto a DC 10 which, I guess, probably holds around 300 people. People from all the previous day's flights, some who had gone home and then come back the next day, were there and the situation quickly became a complete zoo! New Yorkers are not the most civilized people to begin with and, in this kind of a situation, it nearly became a mob scene. They first let confirmed passengers from the previous day's 2PM and 4PM flights on the plane. I was on the 6PM flight. Somewhere along the way they decided to address standbys. A second and third attendant had arrived and in the frenzy that was unfolding I noticed they had totally abandoned the computer. They were doing standbys on a LIFO (last in first out) basis!

I decided it was time to crash this pileup! It was now or never! At an opportune moment, when the din lowered for second, I jumped through the crowd, found my ticket and said "Briggs is here - let's go!" Since it had become every man for himself anyway, I got away with it. It was just like beating out K1AR to 21.201MHz as 15 opens to Europe!

Boarding pass in hand, I felt safe and took two minutes to call my wife in Phoenix and Pedro in Ponce. Just then I started seeing money changing hands in the jetway! This was becoming a truly weird scene - only in New York could this happen. I hung up with Pedro and dashed to the plane. I literally got the next to last seat on the damned thing. I looked around and saw only one other make the grade after I did. Somehow I had made it on the list for VU4 after all!

(As unbelievable as it may seem, there was more to come! Look for the conclusion of the 'ZM/NP4A trilogy in the next Butt! 73, K1ZM)

with permission from the author and if credit is given to the YCCC Scuttlebutt.)

## Quiet in the Shack

Jim Mulvey, KS1A

(reprinted from the **News Bulletin** of the Billerica Amateur Radio Society, September 1987)

My computer used to make more QRM in the hamshack than my eight month old daughter! Between the S9+ signals it generated into the receiver and Kathleen in her playpen learning to talk, something had to be fixed to quiet the QRM. I picked the computer.

No matter what type of computer you have (I've got a Commodore 64) you probably suffer from EMI turning up in the receiver as carriers and/or splashes of noise all across the bands. I soon found that help in curing the noise is hard to come by and what little there is not always in English. After weeks of talking to hams and engineers, months of poring over old QSTs, leaving messages on Compuserve and a lot of experimenting .... I'm still no expert. But here is what I have learned and how I became successful in "quieting" my computer (and what should help yours):

STEP 1: First I disconnected all the leads coming out of my C-64 (i.e., power cord, printer cable, disc drive cables, etc.) and found the noise into my receiver went way down! This is because almost all the cords coming out of your computer act as little antennas transmitting the EMI. How do you trap the EMI from radiating? The **ARRL Handbook** talks about TOROIDS for just this purpose. From the back of QST I found several companies that sell toroids, and at random decided on PALOMAR ENGINEERS in Escondido, California. A phone call got me their "RFI TIP SHEET", and I was on my way! These FERRITE TOROID CORES at their largest look like little metal doughnuts and at their smallest little metal beads. You pass your cable through the hole in the toroid and wind it around the toroid as many turns as possible. The more you wind the cord around the toroid the more effective it is in trapping RF. Some come large enough so you can pass a molded AC plug through several times.

I also learned that TOROIDS are made of different types of material so as to suppress different frequencies! I bought the type that work best to suppress the 2-30 MHz range. For flat printer ribbon cable these companies have flat toroids! When a large plug or connector makes it impossible to slip a toroid on your cable, you can buy "split toroids" that are doughnuts cut in half. Instead of passing a bulky connector through the hole you fit the two halves together right on the cable and hold them together with tape.

I placed my toroids on all of the cables AS CLOSE TO THE COMPUTER CHASSIS AS POSSIBLE. The RF now comes out of the computer an inch or so and is stopped dead at each toroid. This almost completely eliminated the receiver noise! There was just a little bit left and I suspected it was escaping through the plastic unshielded computer cabinet.

STEP 2: "We coated our computer case with aluminum foil during Field Day, and that did the trick!", came one response from a helpful ham on Compuserve's HAMNET. That was a good idea, but it wouldn't look very good and I wanted something more permanent. Shielding the INSIDE of the cabinet was the way to go. I found two methods. The first is to attach flexible adhesive copper sheets to the inside of the plastic cabinet. These are available just about everywhere.

The method that I finally chose came from the engineers at WHDH. And while it worked perfectly for me but may not be for everyone. They suggested "RFI SHIELDING SPRAY" made by Miller-Stephenson of Danbury, CT. You coat the inside of the plastic computer case with this nickel-based spray. You have in effect a nice looking plastic case on the outside, and a super effective RF trap on the inside! I connected a wire to both the upper and lower newly sprayed chassis halves and to ground. NOTE: Soon after I applied the spray someone on Compuserve warned me that at one time he had the spray flake off the inside of his cabinet creating havoc with the pc boards; he didn't remember who made the spray that he used. After many months later (and many inspections) I haven't had a lick of trouble.

I now have a "quiet" computer. And since I found so little hard info in English out there I thought you might like to know how I eventually did it. If your drives generate a lot of signals you might wish to shield them, too. I don't claim to be an expert on this subject; this is just what worked for me. Maybe someday when Katie is working a contest with her old man the computers of her day will be better shielded.

## KY1H Packet Help File

This packet conference system provides for up to 52 users in a local conference and for linking to other BBSes. The commands available are:

Announce One-line announcement  
 WWV SF=XX, A=XX, K=XX predicted solar/geomagnetic activity  
 Talk CALL One-line message  
 DX/YOURCALL FREQUENCY CALL COMMAND (i.e. \*DX/K1RQ 14000.0 DX9DX QSL WB1QSL)  
 SEt/Dxonly To leave conference and only get DX and

WWV reports

SEt/Single For single-ops in contest

SHow/Users Show users

SHow/Dx n Show last n DX reports (n=1-10, default=5)

SHow/Wwv n Show last n WWV reports (n=1-10, default=1)

SHow/Ski Shows latest ski report from KY1H resort

PAge To page me in the shack

Bye To disconnect

Capitalized parts of commands are required; the rest is optional.

## Flakey Ideas

Paul Young, K1XM

Many of you have undoubtedly been following PRB-3, the proposed private handling of callsigns. I have a proposal: The YCCC should take over the job.

Many of the organizations who filed for it are for-profit non-ham organizations. Others are large, and slow-moving. None of the REALLY understand how to use callsigns. The only people who do are testers.

Consider some of the advantages:

We could accept Sweepstakes logs and check them against the computerized callsign list. Any bad callsigns would be immediately obvious.

We could decide not to allocate calls in the WC1-WZ1 block. These would be available as "temporary" callsigns for experimentation purposes. Most experiments would probably be conducted by YCCC members during the WPX weekends.

We could computer-generate "sample" logs for contests. We could charge for callsigns on a sliding scale (work 25 YCCC members in the sprint and your new callsign is half price). This would encourage hams to actually operate, rather than to just sit around and dream about getting a new callsign.

You are probably wondering how we would be able to afford this. Well, of course YCCC would be able to access MEGA-graft. But, we actually would run it on license fees which only cover processing costs, and on contributions. For example, I'll bet we could get some real big contributions if it were to get out that we were considering giving the call W6AM to K6KPS.

I realize that the time for comment on PRB-3 has passed, but for an organization as important as ours, I'm sure they would make an exception!



**Score Rumors:**

Jeff DeTray, NK1F, YCCC Scorekeeper

YCCC produced some outstanding scores on the CW weekend of CQ WW. Our points total for the CW weekend alone may top 84 Megs. With our SSB score of about 46 Megs, our combined score is about 130 Megapoints, better than FRC's winning score from last year. Nice job, one and all! Of course, FRC did better, too, so it could be a close finish in the club competition. You DID send in your logs on time, didn't you?

Within YCCC, an interesting new category is developing: Single Op + Packet. It's a fun way to operate a contest, and can really give your score and the YCCC score a boost. CQ Magazine has been classifying such operations as Multi-Single, even when the 10 minute rule is not followed.

ARRL DX is just around the corner, so please remember to send me your score a.s.a.p. after the contest. Be sure to include your operating category, QSOs, Mults, and estimated score. Later, when your logs go to ARRL, drop me a copy of your summary sheet, so I can keep track of your final score. And be sure your summary sheet says "YCCC!"

Thanks to everyone who sent me scores. A few non-YCCC scores are included in the lists below. GL in ARRL.

**CQ WW SSB:****Single-Op:**

Call	Qs	Zs	Cs	Score
W1WAI	227	47	132	73K
AI3E	201	51	118	94K

**SS CW:**

Call	QSOs	M	Points
WA8SWM	153	62	18972

**SS SSB:**

Call	QSOs	M	Points
NK1A	1409	75	211350
K1LL/6 (A)	1075	75	161250
W1WEF	1459	75	218850
NM2L	1448	75	217200
N4EEB	1619	75	242850
WS4Q	1796	75	269400
K4VX	1750	75	262500
K4XU (A)	1350	75	202500
N5AU	1772	75	265800
KM5H (A)	930	75	139500
NR5M	1741	75	261150
K5YNZ(?)	1865	75	279750
N6BV	1890	75	283500
K6LL	2062	74	305176
N6TR (M)	1736	74	256928
WA7NIN (M)	1736	75	260400
NF7T (M)	1641	75	246150
NK7U	1490	75	223500
W7WA	2038	75	305700
K8CC (M)	1439	75	215850

WA8SWM (A)	220	63	27720
WB9INF (M)	1628	75	244200
W9OBF (A)	860	75	129000
K9RS (M)	1631	75	244650
K9ZO	1414	75	212100
K0CDH (A)	850	75	127500
W0CP (A)	1336	75	200400
K0DD	2066	75	309900
N10E (M)	1450	75	217500
W0IJR (A)	1250	75	187500
WB0O	1850	75	277500
K0RF	1816	75	272400
K0UK (M)	1901	75	285150
NO0Y (M)	1350	75	202500

**CQ WW CW:****Single-Op:**

Call	Qs	Zs	Cs	Score
N1AFC (QRP 3w)	316	49	117	149K
K1CC	2107	141	385	3.21M
K1CLN	391	86	188	296K
KG1D				369K
K1DG				2M
KA1DWX	735	100	246	728K
K1EA	2653	142	376	3.9M
KC1F	79	37	54	18K
W1FJ				774K
W1JR	122	58	101	53K
K1KI	1	1	1	2
W1KM				3.9M
K1RX				675K
K1SA	429	76	181	316K
K1TO	2237	134	393	3.4M
K1TR	266	72	129	146K
K1VR	1678	129	339	2.27M
W1WAI	784	98	248	754K
W1WEF				570K
K1XA	1755	124	333	2.3M
K3TUP (K5ZD op)	2161	144	394	3.25M
K8CC	1593	136	325	2.1M
WA8SWM	177	67	121	86K
W9RE (WA8YVR op)	1900	156	354	2.7M
HD5X* (KQ2M op)	5591	145	367	8.5M
NP4A (N2NT op)				7M
PJ7X (KF1V op)				2.5M
4U1ITU (W1RR op)	1712	90	256	1.3M
4U1UN (NJ2L op)				2.5M

**Single-Op with Packet (counts as M/S):**

Call	Qs	Zs	Cs	Score
N1AU	280	79	160	187K
KA1CB	383	75	203	305K
KA1CI	513	108	218	465K
WB1CNM	455	98	238	421K
W1GG	388	79	197	299K
K1GW	470	87	183	356K
K1IU	1120	137	346	1.5M
KT1O	404	88	176	293K
W1PH	1240	128	343	1.6M
W1RM	520	55	150	306K
AI3E	247	64	141	143K

**Single-Op Single-Band:**

Call	Band	Qs	Zs	Cs	Score
K4TEA	160	89	20	43	
W1FV	80	790	28	90	
KB2RD	80	714	23	72	
K2DM	40	714	36	107	
K1RU	20				502K
WX4J	20	1202	37	107	
KS8S	20	1232	34	106	
K1ZX	15	900	36	108	
KY2P	15	997	30	93	
K5GO	15	1118	36	?	

**Multi-Single:**

Call	Qs	Zs	Cs	Score
KM1C	1415	141	372	2M
NJ1F	674	107	259	658K
K1GQ	2815	162	507	5.5M
KY1H	1860	142	406	2.9M
KA1X				471K
KR2J	2445	148	416	4M
N2RM	2800	172	495	5.1M
N3BB				2.2M
N4RJ	2175	174	480	4+M
PJ2X	1351	61	124	741K
V31A	5621	142	348	6.3M

PJ2X ops: KQ1F, K1XM

**Multi-Multi:**

Call	Qs	Zs	Cs	Score
N1CQ	3033	160	471	5.6M
NB1H	2374	142	427	3.782M
W3LPL	5138	188	574	10.6M
K4JPD	2690	1767	458	4.86M
K4VX	3134	175	455	5.5M
N4ZC	3168	159	442	5.0M
NR5M	4041	183	512	7.8M
J6DX	10462	?	?	?
KP2A (YCCC share)				3.58M (2/14)

KM1C ops: KM1C, NK1F, W1PH

K1GQ ops: K1GQ, AK1A, K1AR, KC1F, K1JX, AA2Z

NB1H ops: NB1H, K1FWE (host), W1HNN, K1MNS, K1ST

KA1X ops: KA1X, AK1L

KR2J ops: KR2J, W2RQ

KP2A ops included: K1ZM, K2EK

**\*CQ WW CW Score Breakdowns:**

HD5X (KQ2M op. s/o):

band:	Qs	Zs	Cs	
1.8	37	7	9	
3.5	246	18	38	
7	983	27	69	=8.5M
14	1199	33	86	
21	2339	34	104	
28	787	26	61	
TOTAL	5591	145	367	

**ARRL 10-Meter Contest:**

Call	QSOs	Ms	Points
AI3E	69	33	9504

**Movers and Shakers**

Update your club roster to show the following changes:

New work phone number for Scuttlebutt editor Paul, K1XM, is (617)486-5276.

New address for Bob, KR2J:

Bob Naumann, KR2J

6 Mullington Avenue

Hewitt, NJ 07421

home phone: (201)728-5486

New mailing address for Ken, K1EA (who has not moved):

Ken Wolff, K1EA

221 Old Littleton Road

Harvard, MA 01451

New address and new callsign for Rob, ex-KA1SR:

Robert J. Koziomkowski, KE2BA

8131 Elmer Hill Road

Rome, NY 13440

New phone numbers for Bob, KQ2M:

Home: (516)736-6869

Work: (516)427-1414

New work phone number for Bob Clarke, N1RC, is (617)631-4228.

**New Crew**

Please welcome the following new and returning members who joined at the December meeting:

John H. Thompson, W1BIH

P. O. Box 1

Torrington, CT 06790

home phone: (203)489-7697

Victor Bennison, NO1I (ex-N1BUE)

2 Georgetown Drive

Amherst, NH 03031

home phone: (603)673-9073

James Reisert, AD1C

52 Swanson Court #26B

Boxborough, MA 01719

home phone: (617)635-0232

work phone: (617)486-6905

Ken Loynes, N1EMG

Black Brook Road

Savoy, MA 01256

home phone: (413)743-3877

work phone: (413)494-6859

Bill McGowan, KC1EO

33 Truell Road

Hollis, NH 03049

home phone: (603)465-7229

work phone: (617)890-4555

Bill Acito, Jr., KC1GS

P. O. Box 343

Sherborn, MA 01770

home phone: (617)655-3627

work phone: (617)568-6611

Bruce Rusch, W1HNZ

97 Brimstone Lane

Sudbury, MA 01776

home phone: (617)443-0503

work phone: (617)454-6200

James Bowman, KS1J

50 Walnut Road

Barrington, RI 02806

work phone: (401)767-3900 x 602

Art Allen, KY1K

74 Holm Avenue

Portland, ME 04102

home phone: (207)773-8731

Dave Mackey, K1KA  
Box 600  
New Boston, NH 03070  
home phone: (603)487-2677  
work phone: (603)644-3555

Paul S. Grupp, KA1LR  
8 Battery Road  
West Townsend, MA 01474  
phone: (617)597-5936

Lanny Bailey, W100  
1454 Washington Avenue  
Portland, ME 04103  
home phone: (207)797-4024

Rolf Seichter, KE1Y (also DF3YS)  
80 Lancaster Drive  
Tewksbury, MA 01876  
home phone: (617)851-5338  
work phone: (617)225-1138

Charles Morrison, KD2SX  
42 Cleveland Street, basement  
Pawtucket, RI 02860  
home phone: (401)722-0746

Paul Obert, K8PO  
50 Plummer Avenue  
Newburyport, MA 01950  
home phone: (617)462-3584  
work phone: (603)424-1400

## Local Events

### CT/RI Section

Connecticut local 10 meter net meets on 28.333 every Tuesday evening at 9:00 PM local time.

### WMA Section

Thursdays: Swap net on 28.303 MHz at 8pm local time  
2/3\*: Start Technician license class 7pm  
4/6\*: Start General license class 7 pm  
5/25\*: Volunteer exam session 6pm walk-in registration

\* Classes and exams will be at Pittsfield Civil Defense Building at 235 Tyler Street in Pittsfield, MA. Park in back of the building.

## Help Wanted

If you can help, contact Dave Robbin, KY1H, at (413)655-2714.

NET CONTROLS – for Thursday swap net.

PRESS AGENT – for contacting press, radio, and TV to arrange publicity for ham radio classes and other events for the Western Mass. YCCC.

## Want Ads

ROOM FOR RENT – I have a spare bedroom for rent in a large country house in Peru, MA. Excellent area for hunting, fishing, skiing, or DXing. \$250/month includes full use of house and ham shack. Rent reduction available for work around the house and antenna farm. Contact Dave Robbins, KY1H, at (413)655-2714.

## Excess Cargo

For sale: Kenwood TH-21BT 2 meter HT. Very small size, 1W output, built-in CTCSS encoder. With second (heavy duty) battery and charger. used little, with original box. Best offer over \$150, or trade for packet TNC. Tom Frenaye, K1KI, phone (203)673-5429.

House for sale in Amherst, NH, with towers, antennas, rotors, and beverages. Antennas only used four weekends a year. Contact Bill, KM1C, at (603)673-1678 for details.

For sale: 30S1, \$950. Contact Louis Cohen, K1YR, at (203)393-1473.

Synder 80m broadband dipoles, used in K1WA sloper system. \$100 each or best offer. Contact Rich, K1CC, at (203)875-0166.

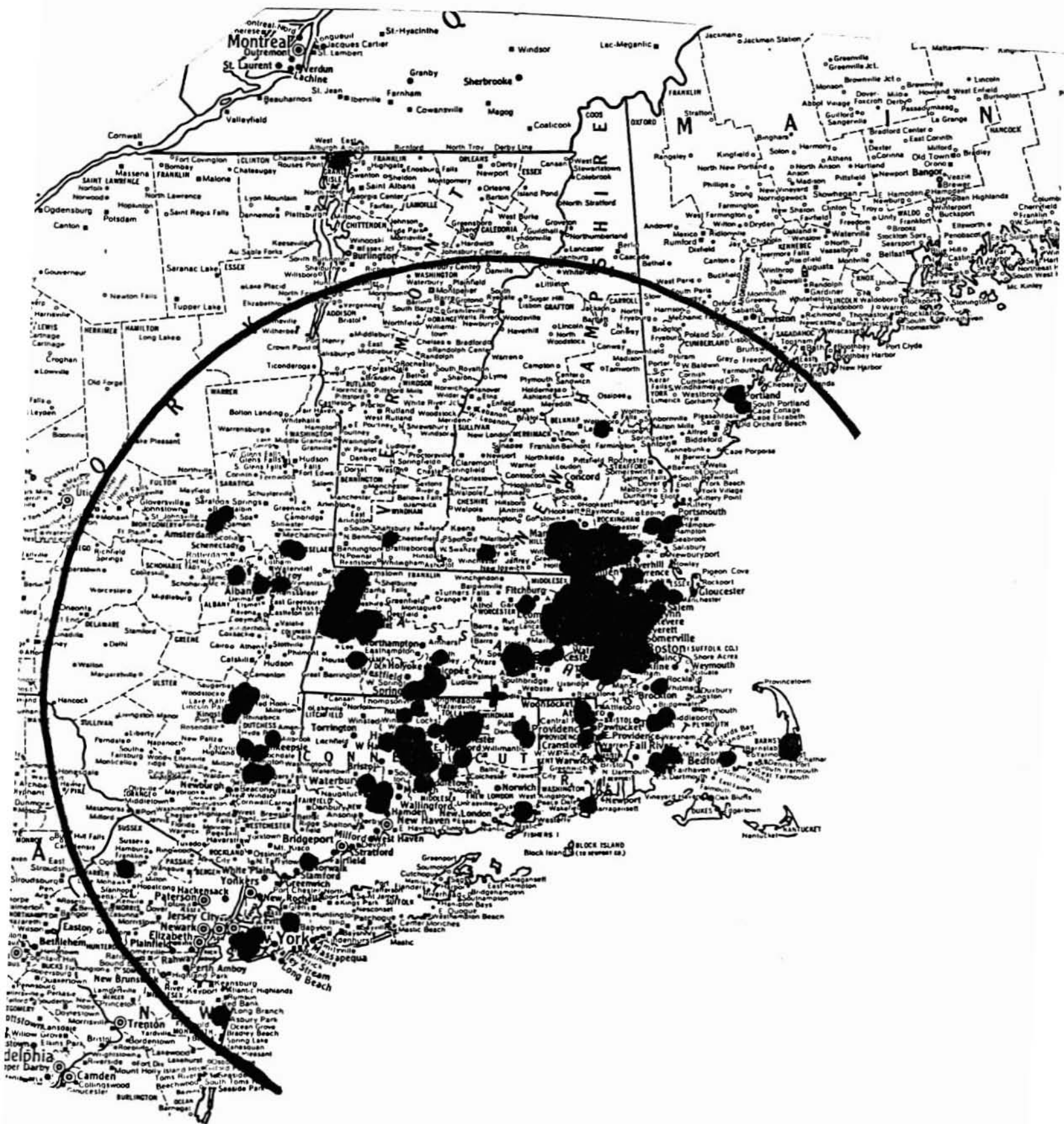
FREE! I have two copies of the new "World of Amateur Radio" tape from the ARRL. These are available for loan to any group interested in seeing them. it is a super tape for showing many of the possibilities of amateur radio and would make a good kick-off for a license class. If possible, I will attend showings of the tape or get someone to go to answer questions. I will arrange for exams or classes for groups that may be interested after showing the tape. Contact Dave Robbins, KY1H, at (413)655-2714.

## Where is the YCCC?

Tom Frenaye, K1KI

Each dot on the map on the next page indicates one YCCC member, based on the most recent club roster. The "+" in the middle indicates the location of the club center, while the circle is drawn at the 175 mile limit. The 175 mile mark is important because club members must live inside the circle to have their scores count towards ARRL and CQ club competition scores (actually CQ uses a 275 km circle [271 miles]).





## THE CLUB RESOURCES PAGE

### THE Place to Find Club Information

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The **Yankee Clipper Contest Club** (an ARRL Affiliated Club) holds six official meetings per year, on the Saturday or Sunday afternoon of the first full weekend of every even month in the Sturbridge, Massachusetts, area. The deadline for article submission to the **Scuttlebutt** is three weeks before the next meeting date. The next meeting will be on Saturday, February 6, 1988, in Sturbridge, Massachusetts. Attendance at an official meeting is required in order to become a member. Club members congregate on 3830 KHz after contests. The packet frequency is 144.95 MHz.

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

Area	Call	Name	Home	Work
CT/RI	K1RU	Gene Frohman	(203) 393-1772	(203) 386-6137
EMass	N1AU	Bill Santelmann	(617) 862-1753	(617) 692-6000
WMass	KY1H	Dave Robbins	(413) 655-2714	(413) 494-2023
VT/NH	K1GW	Glen Whitehouse	(603) 673-6290	(603) 627-7877
ME	K1SA	Bernie Cohen	(207) 773-6589	(207) 797-3585
NNY	K2TR	Fred Lass	(518) 355-4813	(518) 346-6666
SNY/NJ	K2EK	Bill Gioia	(914) 221-1672	(203) 964-3554

### YCCC All-Purpose Coupon

(Be sure to include your name, call, address, and phone number.)

- ☐ My address has changed.
- ☐ Here are my dues for 1988. (☐ Check if new member.)
- ☐ I have the following items for sale. Please list them in the **Scuttlebutt**.
- ☐ Here is an article for the **Scuttlebutt** (use a separate sheet if necessary).
- ☐ I know of a good speaker (include name, address, phone number, and topic below).
- I ☐ have / ☐ have not already talked to this person about speaking.
- ☐ Other: