SOUTHEASTERN DX CLUB

W4NT

HEADQUARTERED IN ATLANTA, GEORGIA

SEPTEMBER 1990 ISSUE

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DX ALERT FREQUENCIES		RAG CHEW FREQUENCIES
147.50 SIMPLEX		147.47
147.795/T - 147.195/R (tone 7) KN4B		147.52
DX PACKET		147.54
W8ZF	145.63	147.795/ 147.195
W1UA	145.61	
K4KG	144.91	

NEXT MEETING: TUESDAY, SEPTEMBER 18, 1990 - - 7:30 PM

Phipps Common Meeting Room- - Lower Level - Phipps Plaza Shopping Center - Buckhead - Near Lenox Mall

PROGRAM: Video on XW8CW & XW8DX expedition by HA5PP and HA5WA - Courtesy of Northern California DX Foundation

MEETING MINUTES AUGUST 21, 1990

Meeting called to order at 7:30 PM by KC4MJ, President. New member N4NMH was welcomed and visitor George, N4PAE was recognized. There were no committee reports to be presented. Carl, WA4ZMH, ran through the pitfalls of completing the new "wants list," having had a few strange responses. "Interest" refers to the mode in which you are interested in working and latest call isn't your current call sign but the latest time you are amenable to receiving a phone call should one of your "wants" suddenly show up. The ONE-RINGER System will be reactivated - if you get a one-ringer, get on packet or 147.5.

Jim, N4UCK reported on his success in having the DeKalb County Commissioners pass the proposed tower ordinance essentially intact with no height limitation and a 1/3 tower height to lot line set-back provision. ARRL in September League Lines described the DeKalb ordinance as the most liberal in the country. Jim reported that Cobb County is in the process of rewriting its zoning ordinances and he will be meeting with the zoning officer soon to discuss a tower ordinance and another current tower case. In response to a query, Jim reported that if your tower was erected prior to 1984 it is probably grandfathered, after 1984 requires a land use permit.

KC4MJ thanked Sharon, KM4IH and Marty, KM4MG for their help in supporting the DX Banquet held during the Atlanta Ham Festival in July. He also reported that the Banquet speaker, PA3CXC passed the FCC Advanced Class license and received 20 WPM code credit. John recently received his call sign, KN4NL - note that "NL" is the International designation for Netherlands. KC4MJ read a letter from Frank, W4ZH concerning W3AZD's treatment of ARRL members in the field.

KC4MJ reviewed the letter from W4BFR to ARRL published in our last issue complaining about the fee structure for DXCC certificate and endorsements. The fee is particularly onerous to overseas DXers and Neil has heard considerable negative chatter. W2HD, former ARRL President has commented that the ARRL has gone too far with this fee structure. The current time delay in getting back your cards and certificates/endorsements is due to the DXCC Desk typing all of your past information into their new data base. WA4ZNH commented that we really don't have any concept as to what sort of workload the DXCC desk is dealing with. KC4MJ will be polling the membership to see if we want to make our feelings on the fee structure and processing delays known to ARRL.

7O1AA acceptance is under determination. One member of the team reportedly was killed during the Iraqi invasion of 9K2. Thanks to Al Kaplan of Hy-Gain, an Explorer 14 is being donated for permanent installation in the ST0 club station. KC4MJ suggested that the Club undertake shipment to ST0 via Kenya.

During the break, W8BLA and K4ODL volunteered to take care of the shipment of the antenna. 3Y5 cards - only 2 in attendance had them on the wall. With regrets it was reported that W4YFR had passed away and W4OCW is attending to his ham estate.

MEETING PLACE: Phipps Plaza site OK? Most in attendance thought so - if you think differently, let your Club Officers have your thoughts on optional sites.

PROGRAMS: Let Randy, K4ODL know what you want to see.

Following the prize drawing, those in attendance were treated to a VHS video tour of some pretty impressive club members' shacks and antenna farms. The tape was produced by Mike, K4PI.

Note:..In WordPerfect 5.1, the thesaurus

DUES..... IF YOUR ADDRESS LABEL SAYS YOU'RE PAID THROUGH 6/30/90, THIS IS YOUR LAST ISSUE.....WA4CUG, Treasurer

<<< FOR SALE >>>

Kenwood Model 230 Antenna Tuner, 1.6 to 30 Mhz. w/manual. Coliins 30L1 Linear with manual, clean.

Contact..... Vern WA4NIB 875-4026 between 5 & 10 PM

QRZ ... THIS IS ... KC4MJ

DE KC4MJ

Well, activity on the bands seems to be continuing. Recently GLORIOSO, BELAU, CHATHAM .. to name a few. With more to come -- ALBANIA(rumors still rampant), MALPELO hopefully this year, and the possibility of John, PA3CXC from ET. I noticed a lot more activity on the WARC bands - new areas of interest - that's good for the hobby. I still hear a lot of grumblings from talk on the air, not only about the ARRL dues hike, the new DXCC fee structure, but also the lack of responsiveness from some of the league officials. The Atlanta Radio Club at its last meeting voted to send two letters to the League and Frank Butler, our Director, stating that they were opposed to the DXCC fee structure and another letter addressing the lack of response from certain League officials. Perhaps it is something we should consider. Let's discuss it at the 18 September meeting. Don't forget to get your want lists to Carl Henson ASAP so we can have a new roster/want list for this year.

Folks seem to like the Phipps meeting place and it's convenient parking. Now with Harry Barron closing the Deli, we need to find a place nearby with fast service and a reasonable menu. Any ideas? Speaking of ideas don't forget to give Randy, K4ODL, some ideas on future meeting programs. It's a tough job, and he needs input from everyone.

Will look forward to seeing everyone at the 18 September meeting -73 and Good DX ...

Neil

P. S. Happy Birthday to Sharon KM4IH Sept 5

Ann KB4SSS Sept 17

Jim K4DLI Sept 2

Anyone else?

Article Contributed by Bill Fisher, KM9P

Small Station Contesting by John Golomb .....KZ2S.....

.It can be very frustrating to operate a major contest with a relatively small station. Many contesters with small stations are discouraged from serious efforts in contests because of the uphill battle against the mega stations/ operators which confronts them. I have written this article to try and encourage those of you with small stations to try and give some competition to these giant stations.

Let me start by giving a description of my "small" station. I use two transceivers (TS-830 and TS-530) and one amplifier (SB-220 always connected to the 830) which gives me one station with about 800 watts out and one with about 100 watts out. My main antenna for 10/15/20 is a three element tribander at 30'. On 40 I use a two element phased dipole array at 40'. A dipole at 45' and an inverted "L" are used on 80 and 160 respectively. Two 300' beverages (NE/W) round out my antenna farm. All antennas except the tribander are supported in trees. Using this rather small set up I have had successful efforts in domestic and DX contests. (very much understated -ed.) I must credit much of the success I've had with the propagation advantage enjoyed in the northeast. However, with sunspot activity on the rise, perhaps other small stations in all areas of the country can start showing up with large scores, especially in DX contests with don't seem to be dominated by the northeast (WPX, IARU, AA, etc.). I should point out that all of my efforts have been on CW, with the higher QRM levels on phone I have always felt that I have a better chance of putting in a decent score on CW rather than on phone.

It is important to know the capabilities of your station. A small station will have strengths and weaknesses (only weaknesses?) from band to band. This where experience from past efforts in a particular contest come in. Which bands can you run well on? How well do your antennas work on marginal or unusual openings? Which band do you just get kicked around on? Have a plan before you start the contest to maximize the strengths of your station. For example, the one band which really works at my station is 40. In just about any contest I use 40 for all it is worth. This has been one of the reasons for my success in WPX CW during the low sunspot years. Those six pointers really add up. On the other hand, you won't hear me struggling in a large over the pole pileup on 20 because it has been my experience that if I don't get through in 3 or 4 calls, I probably never will and it would be a waste of time to try.

Having confidence in your station, large or small, is important in any contest effort. If conditions are very good, especially on 10 and 15 with current solar activity, don't be afraid to try and start a run on the first CLEAR frequency you come across. Half the battle of being loud is acting loud. During the last ARRL DX CW contest I was able to run on 28.001 for around 45 minutes with only 100 watts. Even though you don't have the biggest station around, act like you do when conditions permit. Don't hesitate to CQ high in the band either, a clear frequency is more important than anything else when you don't have a rock crusher signal. I have found that the more disturbed conditions are, the more I notice the difference between my station and a large station. It is discouraging when I can hear one of these stations running Europe on 15 and all I hear is receiver noise coming back to him. So if the bands are wide open there is no reason not to start a run of your own with rates comparable to those possible from a larger station. Right?

Just because you are not operating at a big station is on excuse not to try some of the operating techniques used by the operators of the big stations. Using two transceivers, with stereo headphones, is an asset in any contest even if your second rig is only 100 watts to an all band vertical. Perhaps the editor of this newsletter (Bill KM9P) can write more about two radio set ups than I can, Bill uses this arrangement in just about every contest he enters. Also don't forget to pass multipliers from band to band in a DX contest as this one of the easiest ways to build up that multiplier total. A two radio system makes this easy to do. The next time you decide to operate a contest casually take some time to listen to some of the serious competitors and try and learn something from their operating methods.

A less than average signal demands better than average operating. Some of the operators at big stations may slack off a bit at times and try and let their stations do the work. The operator at a small station can not afford to do this if he expects to remain

Small Station Contesting (Cont'd)

close to the larger stations. He must remain alert and on his toes for the entire contest (easier said than done). Being alert means that you are changing bands just as frequently and sending just as smoothly 24 hours into the contest as you were in the first hour. Also, proper zero beating in pile ups can be somewhat of an equalizer for small stations since 80 to 90 percent of the stations in a pile up fail to do this. When you find a large pile, don't just start calling blindly. Listen to him work one or two stations first and then decide where/when to call him (my RIT/XIT gets a real workout in pileups). You might even get picked out of the pile before one of those big multi-multi's do. By building up these and other operating skills, you will find that a small station is not as much of a handicap as you thought.

The next time a contest weekend comes around don't convince yourself that you can not have a successful effort because your station may not be up to par. Instead, join in the confusion and see just how close you can come to beating on of those giant stations. The more you operate your station, the bigger your scores will become. Always keep the thought in the back of your mind that I keep in mine: Just as David fell Goliath, someday my station will end up defeating one of the big boys!

HOME BREW, THAT IS THE QUESTION

by Lew Gordon, K4VX

Reprinted from the Black Hole

Most amateurs today seem content to buy commercial antennas whether they are casual hams or serious contesters. What they buy is usually determined by their pocketbook, their confidence in the manufacturer's advertising, and/or recommendations from apparently satisfied owners. I frequently receive questions from aspiring contesters such as "I only have room for one (two) tower(s). What should I put up for antennas so I can be competitive?" Although this sounds simple, it is a difficult question to answer. First, I need to know with whom you intend to be competitive, and how big do you want to go. I think in the usual case, however, this question is directed to me to get reinforcement for a decision that has already been made. I have been asked, "Is the KT-34XA better than the TH7DXX? Which are better, quads or yagis? How close can I stack a 402BA to my new tribander?" The question I asked most though is, "If I can only put up one tower, how high should it be?"

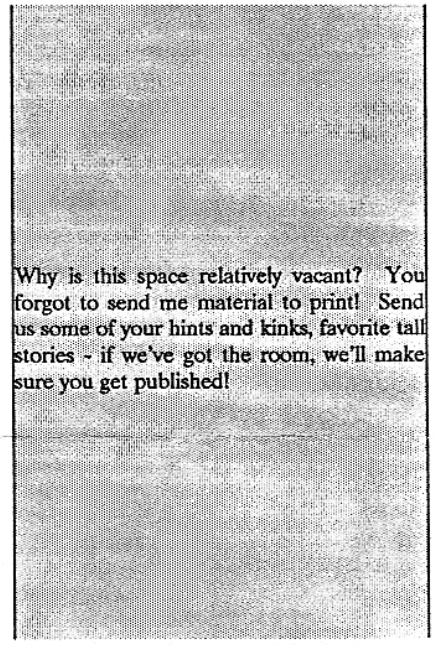
There is never any universal solution to the contester's antenna dilemma. This is the very reason why the larger contest oriented stations have several antennas at different heights for each band. There is one universal rule relative to contest antennas, however: NEVER PUT UP A TRIBANDER IF YOU CAN PUT UP MONOBANDERS. A corollary to this is never put up a commercial antenna as is, if forward gain is your main goal. I use a version of the NEC on my PC called MININEC to optimize antenna design. I have coded a version specifically tailored for Yagis which I call YAGINEC. The numbers I obtain when I compare those taken from Yagi Antenna Design, by Dr. Jim Lawson, W2PV, agree within one percent. I have confidence in the program.

Using YAGINEC, I have calculated the gain, F/B, and driving impedance for several commercially available monoband yagis. In practically all cases the antennas appear to be very close to the advertised values for front to back ratio and bandwidth. In no cases, however, did the advertised forward gain come near to the advertised figures except for KLM, which appeared to be optimistic by about 1.0dB. In all fairness, the dual driven element concept could account for this discrepancy. All other manufacturer's gain claims were two to three dB exaggerated over reality.

As an experiment, I took one of the commercial monoband five element Yagis and changed the spacing, reduced the number of elements to 4, and optimized the element lengths for maximum gain. The calculated forward gain was 1.5 dB GREATER than the original five element version on the same boom length! The front to back ratio and bandwidth was somewhat below the commercial design, but certainly adequate for most contesting applications. This is not an isolated case. Almost any commercial antenna can be improved in forward gain if the user is willing to accept a lower F/B and slightly decreased operating bandwidth. Anyone who doesn't believe 1.5dB makes a difference has never been in a pileup!

I asked one antenna manufacturer exhibiting at Dayton why his company inflated forward gain figures. He said simply that if they didn't, they couldn't compete! Any amateur can measure to his satisfaction that the front to back ratio meets published specifications. He can measure VSWR across the band also. These are the two performance parameters which can be measured by the amateur. No amateur, repeat, no amateur can accurately measure actual forward gain. Hence, the manufacturer feels free to exaggerate in this one area. I wouldn't expect everyone to rush out now and re-design their commercial Yagis. However, prospective buyers should be aware that those published gain figures for that latest SUCKERMASTER 7XL was probably measured in the marketing department. Next time your dual driven element six element special gets beaten out by the fellow with the home-brew five element at 110 feet, don't accuse him of running a pair of 4CX3000As or something bigger. He just might have several dB antenna advantage over your commercial system! (Or he just might be in New England with a Cushcraft A-3!)

.....Thanks to KM9P for the above.....



KUDOS to N4RJ and N4HOH who added some new wallpaper to their collections in the CQ WW Phone Contest. N4HOH garnered #1 in the World for Single Op, Single Band, Unlimited (7 mhz.)

THANKS TO JOHN CHAPMAN, KD2BW FOR THIS ARTICLE:

Techniques For Reduction of Telephone Interference by Emil Gurrero, KC2ZO

Technological advances in telephone instruments seem to have brought forth a resurgence of telephone RFI. This situation is aggravated by the increasing number of manufacturers producing inexpensive versions of these devices. Fortunately some generic solutions can be applied to tame the problems mass production at low cost brought about.

This article recounts some basic methods of reducing telephone RFI, examines the differences found in modern instruments and finally applies some good ham know-how to what has become a sore point in our hobby.

THE NETWORK INTERFACE

One change that has occurred in home telephone service is customer installation and maintenance of internal wiring and instruments.

Since telephone wiring can act as a pickup antenna, this should be the first place we start our cure. Typically telephone service is provided to a subscriber through a device called a network interface. At this point the internal house wiring is tied to the phone by a modular phone jack. Simply adding a .01 Mf disc bypass capacitor across the RED and GREEN wires, called the TIP and RING wires in telephone parlance, may be all that is required to reduce or eliminate RFI.

Further RFI reduction can usually be obtained by the addition of RF chokes of approximately 10 microhenries, in series with the TIP and RING. The capacitors are wired from each leg of the phone line to ground. Running a short length of wire to a cold water pipe or other nearby ground point will assure a high degree of attenuation to RFI.

INSTRUMENT RECEPTACLES

Since our purpose is to reduce pickup of RF on the phone lines, our next step is filtering the line at the point where it connects to the telephone device itself. Most telephones are connected to a small flesh colored block with a receptacle for the modular telephone cord. This is called the "42 Block".

42 Blocks have 4 screw tie points on the mounting plate that can also be used for component mounting. The tie points can be accessed by removing the modular jack cover plate. Connecting the filter at the affected phone will usually suffice for that phone, but I prefer installing them on all the phone jacks, thereby isolating my phones from RF pickup.

FILTERING TELEPHONE INSTRUMENTS

Up to this point we have avoided modifying the phone itself. Unfortunately, the problem may be so severe that we must perform telephone surgery. This involves adding filtering at three places. First: the hybrid transformer.

This audio transformer should be bypassed across its primary and secondary windings with 470 pf to .001 mF capacitors. If the location of this component eludes you, try adding the bypass capacitor across the wires coming from the modular jack. These are usually red and green but may be found by bridging the input wires with a pair of low impedance headphones and listening for dial tone.

The next bypass installation is the microphone element wires both at the mike element and at the point where the handset wire enters the phone. Once again use 470 pf to .001 mF disc capacitors. Likewise, bypass the handset receiver element and wires at the base of the phone.

SUMMING IT ALL UP

Elimination of telephone RFI primarily consists of preventing RF from getting into the unit, as well as keeping it off the wiring. We can no longer rely on the local telephone company to solve RF interference problems for us. We can, however, rise to the situation proving that hams still have some technical knowledge. -73- Emil, KC2ZO