Yankee Clipper Contest Club

Scuttlebutt

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Captain's Cabin

Tom Frenaye, K1KI

WE'RE UNDER ATTACK!!!

It was supposed to be a secret but it isn't anymore. The Frankford Radio Club is planning a devastating attack against YCCC in the CQ Magazine 160 Meter Contests this winter (CW January 25-27, SSB February 22-24).

Seems they have been looking over the results from last year and noticed that with K1ZM's big score from NP4A and WA2SPL's scores on both modes were a major factor in YCCC winning the Club Competition. Since the FRC seems to have been able to outduel us in the CQ WW more often than not, they seem to be looking for even greater conquests.

They've recruited ex-New Englander AA1K/3 who gave a big pep talk a few weeks ago and those FRC guns are loaded and ready. I'd hate to lose to a club that has to work the Europeans through us. Since the HF bands haven't had much to offer this winter, how about putting in a good effort on 160 -- and make sure the log says YCCC!

One thing the FRC doesn't know is that although we will be missing a couple of substantial scores from last year, we didn't even make a serious effort! Let's make this a real competition and blunt the FRC effort by flooding the band with activity from W1/W2! They may never know what hit them. If we lose... they will have a lot of momentum going into the ARRL DX Contest weekends.

YCCC Meeting

The next meeting of the Yankee Clipper Contest Club will be on February 9, 1985 at the Farmington High School in Farmington Conn. The program will include a 30 minute COLOR VHS recording of "The All China Radio Direction Finding Competition"! No, I'm not kidding - Come and see it for yourself!

Directions:

From The North/East, take I86 to I84. From the West, take I-84. Farmington is two towns West of Hartford. Get off at the Rt 4 Farmington Avenue exit (exit 34). Go straight on Farmington Ave, through the light, and quite a bit further (about 3 to 5 miles). It's a large school on the right. I am assured that there are *plenty* of eating places nearby.

TS930s Receiver Performance

Bill Myers, K1GQ

Scuttlebutt No. 54 includes a valuable contribution, by Carl Huether, KM1H, to the growing literature regarding 930 performance. I'd like to add my two cents, based on study of the spectrum analyzer photos in Carl's article, and on some measurements I made using Jim Lawson's receiver testing fixture.

First, I believe Carl has misinterpreted the frequency scale on the photos. Based on Figure 5b, which shows the 14 MHz fundamental and the 28 MHz second harmonic (for the HP 8640B signal generator), the SPAN label at the lower right -- 40.000.000.00 Hz in this case -- must be the total frequency sweep displayed, not the sweep/division. If so, then the spurs discussed with Figure 1a are offset about 280 Hz (not 2.8 kHz). Using Carl's s-meter calibration, the spur generated by a signal 42 dB over S9 would be S1. In real life, if you attempt to copy CW 280 Hz away from a station this strong, the crud resulting from mixing with the synthesizer noise sidebands (Reciprocal Mixing Noise - RMN) is large enough to pump the AGC, and you would probably decide to look for a quieter frequency. On SSB, I imagine the general effect is to make the received signal sound less crisp, although it would probably take hifi ears to detect the distortion with products this far below the original signal.

The synthesizer noise "plateau" discussed in connection with Carl's Figure 2a extends from 1 to 2 kHz on each side of the received signal (not 10 to 20 kHz). In this region, the 930 synthesizer noise sidebands are about 20 dB above those of the HP 8640B. As Carl points out, the HP unit is rather more expensive than the TS-930S (you can get six 930s for the price of one 8640). Building a synthesizer with laboratory instrument performance for the Amateur Radio market is no small challenge: the unit must be small, fast-switching, and incredibly cheap. Consider another perspective: I traded a KWM-380 for my TS-930s (the Collins is now priced at about 3.5 930s), primarily because the Kenwood RMN level was 10 dB better than the Collins RMN level.

Figure 1 summarizes some performance measurements which I made on K1AR's 930. The measurement techniques and instrumentation were developed by Jim Lawson, W2PV; I'll leave their description to another time. The basic information on the plot is the receiver output across the 20 meter band with a -10 dBm signal input at 14.2 MHz. This is a huge signal, 70 dB over S9; as you can see, it causes the RMN level to exceed the noise floor across the entire band.

The little circles sitting on top of vertical lines are discrete-frequency spurs. The largest of these is down 92 dB from the input signal, so it is unlikely that these will ever be a problem. The little bundle of these spurs between 20 and 30 kHz below the input signal is actually a collection of raw-sounding garbage that isn't easily classified as either discrete spurs or random noise. Again, the level of this junk is not likely to be a problem in real life.

Oscillator phase noise is usually specified in terms of noise power in a one Hertz bandwidth relative to the carrier power, typically written as dBc/Hz. It is interesting to present the Figure 1 data in similar terms; that is, the input noise power per unit bandwidth, relative to the input signal, which would cause the observed receiver output noise. This is shown on the leftmost scale. In order to calculate this scale, I had to measure the receiver noise floor (shown as -131 dBm on the figure), and the noise power bandwidth. The following table shows the noise bandwidths for various 930 selectivity combinations:

Noise Power Bandwidths
TS-930s S/N 3050640

SSB, no slope tune	1636 Hz
CW wide, VBT normal	1331 Hz
CW wide, VBT narrow	339 Hz
CW narrow, VBT normal	380 Hz
CW narrow, VBT narrow	144 Hz

Note that this radio had the Kenwood "500 Hz" first and second IF CW filters.

Once the noise bandwidth and the noise floor in that bandwidth are known, the receiver noise figure can be calculated; the result is 11 dB. This is not particularly impressive sensitivity, although it indicates that a reasonable compromise has been made in the tradeoff between front end gain and dynamic range. In any case, the acid test for sensitivity is whether or not you can hear the receiver output noise level increase when you switch from a dummy load to an antenna on a dead band. At my station, I can't hear the antenna on 10 meters, but I am losing 3 to 4 dB in a receiver antenna splitter. Anyone with a quiet QTH will benefit from an Advanced Receiver Research 28 MHz preamp when the band is punk, and I find the same to be true on 21 MHz.

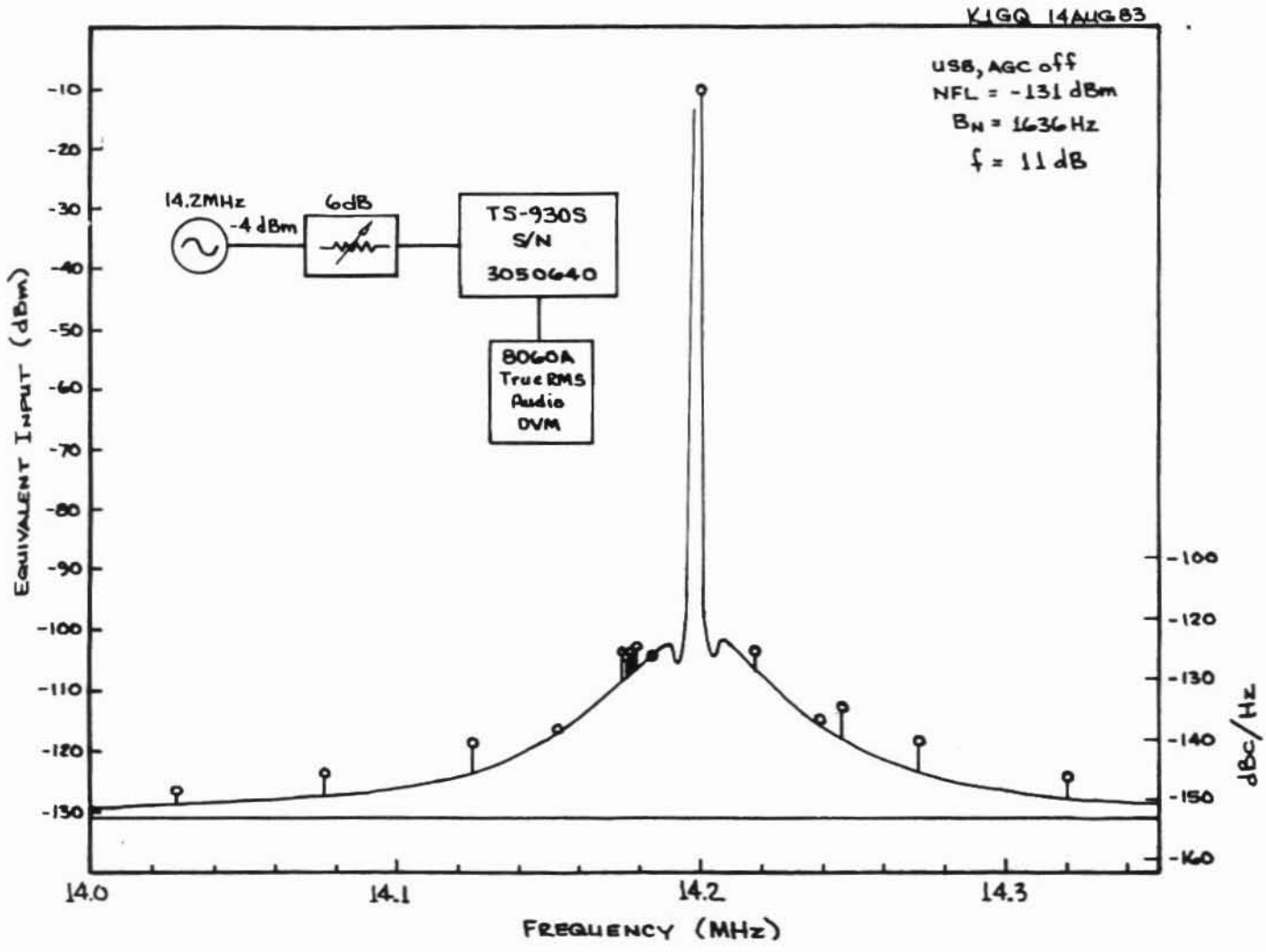
Assuming the value given for RBW in Carl's photos corresponds to noise bandwidth, I came up with the data in the following table:

Oscillator Noise

Offset (kHz)	TS930s (dBc/Hz)	HP 8640B (dBc/Hz)
0.5	-105	-113
5	-110	-123
50	-113	-120
500	-122	-123
-	-123	-123

The specified performance for the 8640 is -125 dBc/Hz at 5 kHz offset, which agrees well with the table. On the other hand, the agreement with my pseudo-spectrum analyzer plot, Figure 1, is not so good. My data shows the noise level steadily decreasing, whereas Carl's photos show a noise floor at about -123 dBc/Hz. I suspect this is the noise floor of the HP 3585A spectrum analyzer, rather than a feature of the oscillators under test.

I've run a similar plot on my old KWM-380, and I have copies of Jim's tests on Collins 75S-3C and KWM-380, Drake TR-7, Kenwood TS-830S, and Signal One CX-7 and CX-11. The measurements take the better part of a day, so I'm reluctant to volunteer to test just any radio, but if you have something not on the list and want to spend a weekend in Hollis, let me know.



Clipper's Log

Score Rumors for CQ WW CW

N2AA m/m

160	117	17	48	
80	295	24	77	
40	1239	38	123	
20	1140	37	122	
15	611	27	90	
10	46	14	24	
TOTAL	3448	641		6.18M

W3LPL

160	58	11	28	
80	228	20	70	
40	956	36	108	
20	762	36	106	
15	710	27	100	
10	65	17	26	

K5RC	2048	158	402	m/s
K1RX	1797	137	366	m/s
N4AR	1683	145	388	m/s
W8UA	1554	136	354	m/s

K1XM (+ KQ1F, K1PR, N1RC) m/s

160	5	4	4	
80	61	16	37	
40	474	33	93	
20	376	30	82	
15	169	20	59	
10	9	7	6	
TOTAL	1094	110	281	1203107

KM1C (m/s)1246 114 316 1.5M
(+ W1PH, KB1T, W2IQD, WB8BTH)

Single operator

W1FV	362	22	74	s/o 80
K1BW	750	35	108	s/o 40
K5MR	913	36	102	s/o 40
K1AR	1118	120	303	
K1EA	1447	112	277	
W1GG	380	77	154	
W1IHN	728	89	232	
K1KI	535	92	191	
K1MM	56	14	31	s/o 160
KT1O	316	53	117	
W1RM	1205	131	311	
AI1S	281	68	148	
K1VR	594	110	205	
K1VUT	189K			
W1WAI	205	67	141	
W1WEF	603K			

KA2AEV	240	55	123	qrp
K2EK	810	28	92	15m
N2GC	737	111	270	
KY2J	109	41	69	
K2RD	997	111	283	
K2SX	165	20	60	80m
K2VV	418	?	?	

N4RJ	251	76	26	80m
WA4JXF	411	10	22	
N7DF	256	25	56	80m
W9RE	1200	?	?	

K1VR

160	22	8	16	
80	104	16	42	
40	175	26	64	
20	262	27	66	
15	215	21	57	
10	16	12	11	
TOTAL	791	110	256	

K1MM

160	56	14	31	
80	38	12	21	
40	169	30	63	
20	117	20	41	
15	6	5	3	(no antenna)
10	0	0	0	(no antenna)
TOTAL	386	81	159	

K2RD

160	23	8	12	
80	53	12	35	
40	127	27	69	
20	472	30	85	
15	280	23	69	
10	22	11	13	
TOTAL	977	111	283	

K1DG

160	24	9	15	
80	137	19	53	
40	380	31	81	
20	426	31	70	
15	458	21	68	
10	28	13	17	
TOTAL	1353	124	304	

K1OX

160	15	6	7	
80	94	16	50	
40	434	33	77	
20	475	32	88	
15	466	26	83	
10	22	11	14	
TOTAL	1500	124	319	

K1EA				
160	7	4	4	
80	120	16	42	
40	311	30	71	
20	607	29	78	
15	378	22	72	
10	24	11	10	
TOTAL	1453	112	270	1.77M
K1AR				
160	20	5	11	
80	128	21	59	
40	206	31	72	
20	420	34	86	
15	341	26	72	
10	3	3	3	
N2LT				
160	20	6	11	
80	108	18	49	
40	421	32	86	
20	696	34	92	
15	477	24	77	
10	13	6	9	
TOTAL	1735	120	324	
W1RM				
160	3	3	3	
80	126	22	59	
40	179	30	80	
20	450	36	91	
15	416	27	78	
10	21	12	14	
TOTAL	1195	130	325	1.5M

CQ WW SSB score rumors

W2XL, (+ NA2N, N2DRR, KA2TIP, KY2J)				m/s
160	10	7	7	
75	33	10	20	
40	62	18	36	
20	234	25	70	
15	221	23	66	
10	56	10	25	
TOTAL	616	93	224	532877
KM1C	1053	106	284	m/s
(WB8BTH, W1PH, KB1T, KM1C)				
W1GG	428	70	160	267K
KA1GG	531K			
W1RM	178K			
K1VUT	655	27	105	15m
W1WAI	82	38	62	
W1WEF	534.8K			
AA2Z/1	764	69	171	
K2EK	539K	(15m)		

SS CW

KM1C (W1PH)	840	73	122.640	low-power
K1VUT	818	73	119428	
W1WAI	130	47	12.220	

SS SSB

KM1C (WB8BTH)	970/72		
W1WEF	1255	74	
K1VUT	1003	70	140420

The Low Band DXers Pledge of Allegiance

Mike Crabtree, AB0X

(reprinted from the Kansas City DX Club)

If you want to be a low band DXer, place your left hand on your Alpha, raise your right hand and repeat after me:

I, (insert your call), pledge allegiance solely to the low bands, forsaking all other frequencies, in my never-ending quest for DX, with full knowledge that I will forfeit all aspects of a normal life. Therefore, I will forsake any sort of family life, regular sleeping hours, a normal sex life, and all other recreational activities or commitments that might interfere with low band DXing.

I also pledge to fill my back yard with as many wire, vertical, and listening antennas as possible.

I accept the burden of never having enough radials in the ground, and I am fully aware that I will be perpetually burying wire in my yard as long as I am physically able.

I promise to disavow all guilt or wrongdoing when TVI complaints are received from my irate neighbors.

I further pledge to endanger my job on a regular basis as a result of countless hours of lost sleep spent tuning the low bands in the middle of the night.

Lastly, I pledge to spend the rest of my amateur life listening to static and QRM, and calling stations I can't hear!

Congratulations! You are now a Low Band DXer!!!

160 for the single op

Bill Poellmitz, K1MM

Unless you plan to operate 160 meters single band, you probably don't want to bother calling CQ and making lots of contacts. The typical all band single operator should use 160 meters to build multipliers- nothing else.

If you have no antenna at all for 160 meters, and cannot work much beyond the borders of your property, you should spend 5 or ten minutes on 160, sometime in the middle of the night, when other bands are non-productive. Find a loud local W and a VE3 - work both. If you can hear a VP9 or Caribbean station calling CQ with no takers, give him a few calls, but don't waste too much time if there's a pile-up. If you really get ambitious, try to work a W6 or W7 in Zone 3. Even using a 40 meter antenna you can pick up 4 multipliers in less than 5 minutes (zones 4 and 5, and VE and W).

If you have a good 160 signal, your strategy should still be to maximize multipliers, not QSOs. The highest rate I have ever achieved on 160 in the CQ WW was 24 per hour, and half of those were VEs, and 5 or 6 were Ws worth zero points.

There appear to be 2 productive multiplier periods on 160. The first is 0100-0200Z where there are lots of Europeans to work, as well as a few Caribbeans. Signals may be weak and Europeans sometimes have trouble hearing USA due to local QRM. The second period is at European sunrise, 0500-0600, when signals tend to be strongest across the Atlantic. Don't get carried away working lots of Gs or DLs - one of each is plenty. A tradition is observed by many Caribbean DXpeditioners who work 160 meters for 10 minutes at 0500 and/or 0600.

Let me share a few statistics out of my 160 log from the 1984 CQ WW CQ:

I worked a total of 14 zones and 31 countries (total multiplier 45) in just 6.25 hours on the band. My first QSO was at 0118 the first night and by 0318 I had logged 22 multipliers. Between 0500 and 0545 I worked 6 new countries, 5 of which were Caribbean or South America. The second night was nearly a repeat of conditions with 7 more countries worked between 0030 and 0130.

Most of the stations which were active were regulars, so familiarity with the call signs was of paramount importance.

Conditions were as expected - only surprise, UG6GAW was 599 the second night on 1842 at 0400.

All the DX worked was called - No CQs.

Country Breakdown:
Europe - 15
Caribbean/South America - 9
Africa - 1
Oceania - 1
Asia - 2
North America - 3

This proves that operating 1 or 2 hours each night would produce about 35 multipliers. Since 35 incremental multipliers on the other bands would have been very difficult, time spent on 160 proved to be worthwhile.

80 Meters - 1984 CQ WW CW

John Kaufmann, W1FV

The most notable aspect of working 80 meters in this year's CQ WW CW Contest was that, with the exception of a good opening to the Pacific/Japan the second morning, there were no notable aspects. Conditions into Europe were average to below average. The second day was far more productive, at least in terms of quantity, than the first.

From the standpoint of W1FV, this CQ WW event was the first real opportunity to put to the test a new 80-meter antenna system which was completed only two weeks before. Thus I elected to operate as an 80-meter single-band entrant. This band summary is reported from that perspective. The antenna system consists of three phased verticals laid out in a triangle with eighth-wave spacing and 100+ quarter-wave radials per element. The array can be switched in four directions. A 500-foot terminated Beverage antenna was used for reception towards Europe. The rig was a TS-830S/SB220.

The early hours of the first night actually featured fairly good propagation into Europe (0000 to about 0430). However, there was the usual first-night problem of getting the Europeans to hear stateside signals through their own QRM. Unfortunately the European-sunrise opening which usually begins around 0500 never materialized as propagation deteriorated markedly. Those who expected to work Europeans the first night after this time missed out if they were not on earlier. ZL3GQ was the first Pacific station worked (at 0720). A couple of LU's came through between 0800 and 0930. KX6DS was contacted around 0950 with weak signals

although he later peaked up at our sunrise. The last contact of the first morning was NL7G with a good signal at 1145. KH2, KH8, and some JA's were all heard weakly but not worked. P29 was heard shortly before 1300 and KX6DS was still coming through when I shut off the rig around 1300. Totals through the first morning were 128/18/51.

The second evening began with the first European being worked at 2050. However, rates for the next few hours were in the range of only about 10/hour. A number of new European multipliers, including OH0, HB0, a number of Russians, and also UF6 and 9H3, were available between 2200 and 0300. It was frustrating, though, to hear UH8EAA and several UA9's during this time with good signals but to not be able to break through the wall of European QRM. Unlike the first night, the sunrise opening to Europe turned out to be fairly productive. 110 Europeans, including quite a few Russians, were run between 0500 and 0700. Most of them had very weak signals and were audible only on the Beverage antenna. ZP5XDW was a good catch at 0840. The 0900 to 1000 time slot produced only one QSO with a very weak VK. However, there was a brief skew-path opening to JA (I was beaming southwest) from 1000 to 1015 and I was able to work 3. NH6J/NH8 was finally worked at 1050 and KX6DS was around again. Conditions picked up dramatically after 1100. KH6 was loud. P29RT (if I remember his call correctly) had an excellent signal but got scared off quickly in a huge pileup. The JA's began building in signal strength rapidly after 1115, peaking around 1145 (local sunrise). Some of the JA's were as loud as I have ever heard for a morning opening (they were peaking from the northwest this time). Many W1/W2 stations managed to make the grade to JA. I put another 10 JA's into the log, in between spending lots of time listening for new multipliers which I never did find. My last JA was worked at 1245 (one full hour after local sunrise!) and some were still heard after 1300.

Sunday evening did not produce any last-minute run on new multipliers (or QSOs) as is often the case. My final totals for the contest: 356/23/76.

40 Meters, CQ WW 1984

Paul Young, K1XM

If you haven't looked at the breakdowns of the multi-multi stations, do so. They make it clear that 40 meters was the band in this contest. My biggest regret is that we didn't spend enough time on this band (in fact, I almost wish I had gone single band 40).

This year was different from previous years, in that the best time for 40 was NOT during the evening. In fact, the times around 0200-0500 were about the worst for Europe, comparing to daytime!

We started on 40 meters, and worked 55 stations during the first hour. We had good conditions into Northern Europe, and worked our share of OH and OZ multipliers, which in previous years have been the more difficult ones from here. The second hour was good for 40 more QSOs. We spent a good part of the time tuning the band, as the rate was dropping fast. A couple Europeans were worked at 0200, and an HB9 at 0239. From then until 0459 we did not work any Europe. I had expected this: if you didn't you probably spent much time wondering what was wrong with your antenna!

The next few hours (0500Z to 0800Z) involved lots of swinging the beam. It's fun to have Europe, South America, and Oceania to pick from. Although we had pretty much worked out the Caribbean, there were still plenty of multipliers to work during these few hours. We worked our last European at 0743, and turned our attention elsewhere for a while.

At about 0915Z we came back to 40, to pick up a couple JAs and some more Oceania. Then it was time to go to 20, and do the daylight stuff.

We came back to 40 at about 2045Z - a bit late, I think, but we were having a good JA run on 20. Europe was already coming in, and we started to pick up more QSOs. There was a long path JA opening at around 2115, but we didn't do too much with it here (I suspect my antenna is a bit low for long path JAs - we couldn't run them and it wasn't worth the time to call them). There were also some Asiatic Russians on for multipliers.

The band stayed open to Europe a bit later on Saturday, and from about 2200 to 0230 we were filling log pages with Europeans. We missed a few good ones during this time, notably 5R8AL, but you can't win 'em all.

We left the band pretty much alone from 0315 to 0500, probably because we needed stuff on 80 and the second night was much better than the first there. At 0500 we worked a few more Europeans, but not many. At about 0630 we got another opening into Europe, and one more at about 0730. This was a big one, and we were able to get some good runs. We worked Europe until about 0930. We then hit 80 and 20 looking for multipliers.

We came back on the band at 1015, worked a few JAs, and went looking for our missing Asiatic Russian zones and countries. We found zones 17, 18, 19 (coming long path from the Southwest), worked our last European of the morning, pulled our heads out of the noise, and headed for 20 meters.

We returned to 40 meters at 2015. Our biggest mistake was not getting back earlier. As a result, we did not work YB0. K1AR also worked an S79, which I still need on 40! By the time we got there, 40 was again open to Europe, and we spent the rest of the contest working Europe, mostly running them. There was again a long path JA opening at 2130, but we were unable to run them, so we concentrated on stations to our Northeast.

We ended up with 474 QSOs, 33 zones, and 94 countries. Since we were Multi-Single, there were two stations - A TS-930/SB220, and a TS-830/SB200. We used the second station quite a bit on 40 so that we could use the bigger amplifier on 80. The antenna is a homebrew 3 element yagi at 90 feet.

My best 40 meter advice these days is to 1) get to 40 meters early, and 2) Don't give up the contest if the band dies between 0200 and 0600Z.

Unusual multipliers:

TIME	CALL	REMARKS
Saturday		
0017	CN8ES	
0022	J28EG	Called me
0045	NL7G	Very early
0142	5H3BH	Very active
0153	3D6AK	
0231	KH6XX	First Oceania
0742	NH6J/NH8	Tough to break Midwest
0843	RZ1OWA	Franz Joseph!
0920	P29PL	
0944	P29JS	Lots of P29s
2110	PZ1AP	
2137	UP3BA/UF	Big European Pileup
2205	5N8FOC	
Sunday		
0102	C53J	New country on 40!
0745	RA1NA	UN1
0826	JW0EQ	
1057	UA9YE	Zone 18
1059	UZ0QWA	Zone 19
1103	UA9MR	Zone 17
1142	UL7CAD	
2058	VK6LW	
2237	EI9J	Called me
2357	IS0LYN	

Twenty Meters: Fall 84

Ken Wolff, K1EA

With the solar flux down around 70 twenty meters has become the meat and potatoes band for the DX contester. At the start of the contest JA's are still workable at relatively low rates. South America can be worked until far into the night. I worked a HR1 at 0630Z during the CW weekend. Propagation to the south is possible practically all night but nobody is on the band to enjoy it. It is best to sweep the band for multipliers every hour all evening (something I never seem to remember to do).

European sunrise can provide a real treat with deep Russians being workable around 0800Z. Ask K1AR when; he is the guy who worked them during the phone contest. I tried on both nights of the CW weekend but did not hear anything. If you get the opening it could provide 5 multipliers you would not get otherwise.

In the morning North Africa and South Europe may be audible as early as 0900Z, but we are not loud enough over there for us to hold a frequency until about 1100Z. Rates in the morning can be real good, but when 15 opens you MUST go there. Don't come back to 20 until 15 is really gone because you won't get another shot at 15.

Now comes the really boring part of DX contesting. You can't run Europe on 15 but you can work 40/hour on 20. Call CQ for 45 minutes, work the 30 guys under S1 who call. Spend 15 minutes looking for multipliers on 20, 15, and 10, then back to CQing on 20. You can do this until at least 2100Z, which is a whole bunch of hours at 40 per. I combat the boredom by reading science fiction. KC1F watches TV. Stu says he saw Doug Flutie's Hail Mary pass 123 times during the CW weekend.

On CW I worked my first JA Saturday afternoon at 2145, which is earlier than I expected, finishing up at 2345 with over 100 of them. This is a better than average run for me and shows that good, but not great rates can be made on 20 into Japan. Even though it is Monday morning in Japan at contest's end a surprising number stick around to work us. I worked 60 more on Sunday night between 2200 and 2300 during the CW weekend. On phone I worked 85 JA's on Sunday night between 2230 and the end.

Here are K1EA's Twenty Meter Rules:

1) If it is daylight, you can always work 40/hour

into Europe.

2) Tune the band for multipliers every hour, but do it QUICKLY.

By the way, my antenna on 20 is a TH7 at 90 feet.

Analysis of 21 MHz cw in 1984 CQ WW

Stu Santelman, KC1F

Fifteen was intriguing this year because, although the low solar flux limited the amount of time the band was open to Europe, there were some remarkably high rates possible, particularly on Sunday. Signals were generally not as loud as usual, which may have enchanced the rates for those New England stations able to hear them. The short openings allowed for lots of searching time, which produced multiplier totals competitive with the multis.

There were signals on the band at 1130Z Saturday but Europe wasn't very runnable until nearly two hours later. Interestingly, OH6NU was the first QSO on the band, with no other Europe for an entire hour. African signals were loud for an hour and a half before the Europe run -- a sluggish opening.

Europe started between 1250 and 1325, when I came back from 20. 43 QSOs in the first 23 minutes resulted: IS0LYN, TK5EL, and HZ1AB calling in. The rate then dropped off slightly but continued good until 1515Z, with a noticeable lull from 1430-1450Z. This opening was almost exclusively southern and western Europe -- only five zone 16s all Saturday. RL8PYL called in very loud at 1510Z for the only Asiatic USSR. The rate dropped drastically at 1515Z, and I worked only 30 more Europeans before leaving the band at 1600Z. The total opening had been only three hours, with good runs for only two.

1630 to 1700 on Saturday was great for multipliers from the remaining Europeans, Africa, and North and South America. From 1632-1703Z I worked 26 QSOs, 4 zones, and 14 countries. This is typically the best time to catch the Africans and late Europeans, before the pileups get big later. Worked from Europe were CT, CT2, GU, and GW. The last European was really quite early -- GW4TTU at 1703Z. There were only 30 more QSOs and no Africans after this time on Saturday. The Pacific was workable from 1900-2130Z, with nothing heard north of Hawaii. By 2200Z there were only South Americans, CX7CO being the last at 2223.

I understand that the band opened substantially earlier on Sunday, and that K1EA even worked a VS6 at 12Z. At that time I had been futilely calling JAs on 80m, then DXing on 40 and 20 during what proved to be the best Asiatic opening of the weekend. Upon arrival on 15 at 1247Z it instantly became apparent that the band was wide open and that I had missed the beginning. After having logged 37 QSOs in 16 minutes it began to dawn on me that some really good rates were possible here, so I discarded the dupe sheet and programmed the CK-2 for 38 wpm, where it stayed for the duration of the opening. From 1247-1346Z I logged 144 contacts, with ten dupes resulting in a net hour of 134, breaking my personal best of 133 (from New England -- overall personal best is 231 from Puerto Rico). I found this highly exhilarating, and had no cobwebs to deal with the rest of the day. Of particular note was a ten-minute stretch from 1305-1314 with 32 QSOs, a 192 rate. There were also noticeably more Russians, SPs, etc., on Sunday, as the band was recovering at this point.

Unfortunately, for some reason the band died even earlier on Sunday. At 1420Z, after only an hour and a half of running, UP2BM/UF signified the end of my success by zero-beating me and calling CQ for ten minutes without listening. I worked only 25 more Europeans after this, and had in fact worked the last of them by 1600Z when I left to try to bolster my anemic 20 meter totals.

17-18Z was again singularly productive, with three new zones and six new countries. The Africans lasted later on Sunday, until 18Z or so, and ZD8KM was in until 19Z.

The Sunday Pacific opening was similar to Saturday's, with the exception that I understand that K1AR worked a JA.

Equipment used was an FT-102 with an L4-B. The keyer was a CK-2 with a vibro-keyer paddle, the kind the little red plastic thing breaks off of. Antennas were: 4 element south at 60 feet, 4 over 4 at Europe fed together (30 and 90 feet -- average height 60 feet), and a six element rotary at 140 feet. Those of you with lower antennas may take heart from the knowledge that the lower antennas were at all times louder to Europe. The rotary, of course, does quite well for everything else, thank you.

Unusual multipliers:

TIME	CALL	REMARKS
Saturday		
1156	C53J	never found him again
1242	GJ0AAA	Ditto
1247	EA6URP	Urp!
1249	3D6AK	
1331	IS0LYN	Called me
1333	TK5EL	Called me
1350	HZ1AB	Called me
1404	4U1ITU	Called me
1427	HB0AYZ	Called me
1435	GM4SID	Called me
1459	9H3DI	Called me, duped me on Sun.
1510	RL8PYL	Called me, very loud
1634	KA2DIV/V2	
1637	TR8JLD	
1643	GU4IUW	Weak
1658	PA0JLS/PJ2	
1702	8P6DQ	
1703	GW4TTU	
1911	PY0FA	
1914	ZP5XDW	Big pile
1956	KL7RA	
1959	ZL3GQ	
2116	NH6J/NH8	
2118	CO6JP	"Juli" in "St. Calara"
2121	ZL7OY	No pileup
2223	CX7CO	Only CX
Sunday		
1255	UZ2FWA	Called me
1308	UR1RWN	Called me
1343	UQ1GWW	Called me
1416	UO5OA	Called me
1540	LX1DA	Called me, passed to 20
1713	5N8FOC	
1732	EA8URL	Duke of URL: only EA8
1738	5H3BH	
1746	PZ1DV	AR beat me
1748	VO2WL	Very weak
1749	VP2VCW	
1846	ZD8KM	World class pileup, tuning erratically
1859	HI8WRE	Slow and loud, sending "5NN D"
2108	VK2BQQ	
2113	V3ZZ	Weak with big pileup
2226	FK8CE	Loud with big pileup

CQ WW CW 1984 - 10 Meters

Paul Young, K1XM

Why am I doing 10 meters? There isn't enough to say to justify asking someone else to do it. Here goes:

W3LPL worked two G stations. Some of the locals worked a CT2. There was an opening to Africa the second day. K1AR worked a 5W.

Moral: Sell your 10 meter beam, and use the money to put radials under your 160 meter antenna - It's clear that 160 is now a more important band than 10!

Most Improved Club Award 1984 ARRL International DX Test

Steve Place, WB1EYI

Congratulations to Murphy's Marauders for earning the ARRL International DX Contest/Most Improved Club plaque for 194. The Marauders upped their average points per entry by 373,463 points, from 238,323 points in 1983 to 611,786 in the 1984 test. Murphy's also won the Most Improved Club plaque in 1982 -- you figure it out -- HI!

Every Affiliated Club that submits a club score in two consecutive years is eligible. And you don't have to be a contest club to take home the plaque. All it takes is a desire to improve on your previous year's performance. (Winners of the award are determined by the largest increase in points per entry as compared with the previous year's entry.) Next time around, try getting all the gang to take part; if some of your members can't put in a full single-op effort, organize a few multi-single stations and work them as a team. If you can keep several stations on the air for the duration by working shifts, you'll be amazed at how the points add up. Congratulations to everyone who submitted his score towards his club's aggregate, and the very best of success to all for the 1985 DX Test. Let us know how you make out.

(Thanks to Mike Kaczynski, W1OD, Assistant Communications Manager for Contests for tabulating the scores.)

1 Murphy's Marauders
2 Greater Milwaukee DX Association
3 Northern Illinois DX Association
4 Potomac Valley Radio Club
5 Frankford Radio Club
6 Eastern Michigan ARC
7 Yankee Clipper Contest Club
8 Southern CA DX Club
9 San Diego DX Club
10 Long Island DX Association
11 Meriden ARC

IARU Radiosport Top World Scores

Mike Kaczynski, W1OD

Mixed:

RB5IM	1049802
UF6CR	873715
RB5AA	751285
JA1YWX	739680
UA0SAU	711588
Y31M	681560
OK6RA	664302
UR2QD	634516
VK6DU	617580
K5KG/OH0	606001

CW:

LU8DQ	1737648
UA6LLT	928203
RB7GG	800943
UA9SA	770434
UW3HV	390558
N5DU	344454
K4XS	320374
UJ8JA	308080
UA4FAZ	291494
UA9XR	262795
CT2CQ	262314

Phone:

VK6MD	1302260
RB5FF	1117269
Y24UK	1082421
WB6FCR/KH6	1049321
LU1BR	1017900
YC0VM	892619
5B4MF	885354
AI84V (N6KT)	867332
N6RO (WA6VEF)	824780
JG1ZUY	639856

Multiop:

LZ2KTS	2259180
RW4F	1774880
RP3P	1439288
RL8PYL	1429344
HG5A	1295559
JA3YBF	1243957
OK1KRG	1241856
W5XZ	1238142
UH8EWW	1209416
NP4CC	1183400

Top W/VE scores:

Mixed:

W9RE	502579
NW4B	490641
KM9L (WB9JKI)	342419
KL7Y	316407
KB5FU	224550
K84EID	203426
WC4E	176814
KI64O	165990
WD8IXE	131279
KE23PQ	87920
WA6FGV	85428

CW:

N5DU	344454
K4XS	320374
KB1W	242450
W3GM	241830
KB0G	240540
N0EBM	236532
W8FN	229149
K3HPG	172040
AI1S	124372
N5RM	121752

Phone:

AI84V (N6KT)	867332
N6RO (WA6VEF)	824780
N4ZC (N5TR)	376635
K23SVL	304152
KQ1Y	302320
W4DFU (KA3IKE)	256487
KD7LF	150765
KC3EK	141489
N4UH	137972
W8KKF	134602
KR1R	134264

Multiop:

W5XZ	1238142
N5AU	1013610
WA5PQK	986830
N4WW	894927
K5MR	894159
W23KUT	858600
K1KI	782460
K1NG	704062
W23TMD	683366
K5QY	585576

Floating

Paul Young, K1XM

Well, we're halfway through the contest season. So far the unseasonably warm weather has kept antennas safer than normal - I don't know of anyone in YCCC who has lost anything yet. If this keeps up we should be in *real good* shape for the ARRL DX tests.

In between the contests I've been keeping busy working DX on 40, 80, and 160. There hasn't been too much on 40, but I've picked up some new ones on 80 (and would have picked up more if I weren't so weak on 80), and I've been working some surprising stuff on 160. Last night I worked 7 new ones (and called 3 that I didn't get). If I keep going at that rate, I will have my 160 DXCC by the end of the week!

ARRL members received a card with their QSTs asking for an opinion on whether 40 SSB should be allowed below 7100. Although such an allocation would probably help people with large antennas (like mine) I ask you to send back the card saying that you oppose such a change.

If the FCC were to allow a phone band below 7100, it would probably be either 10, 25, or 50 KHz wide.

If it were 10 KHz wide it would not be very useful. The North American Service of Radio Moscow transmits AM with a carrier frequency of exactly 7100 KHz. Their lower sideband, of course, falls in the exclusive amateur allocation, wiping out the top couple KHz during 'prime time'. The remaining part of the band would hold, maybe 5 QSOs. Could you imagine the fighting for those 5 frequencies during the ARRL DX Test? As far as the rest of the world, it would push the foreign SSB stations down another 10 KHz, into the part of 40 meters used for nets and ragchewing.

A 25 KHz band would be more useful (and would probably sound much like 3775-3800). W1AW would have to move their CW bulletins down out of the phone band. The Europeans currently have a voluntary lower limit on their phone band of 7040 KHz. This is important to them: when conditions are good you can hear European CW ragchews all the way up to 7040. Moving this lower limit down 25 KHz would put it at 7015. I don't think a 15 KHz CW band is going to be much fun.

A 50 KHz band would force the European phone stations to move to the bottom of the band. It would also allow General and Advanced operators only a 25 KHz CW band on 40. Kiss CW DXing goodbye.

40 meters is a very small band in most of the world. To clutter it with SSB, which is about the least spectrum-efficient mode (except for television) sounds to me like a way to make it useful for less people, not more.

Before you go saying "There goes CW Forever K1XM again..." consider that I would have worked a KC6 this morning if I could have worked SSB transceive below 7100. I still need KC6 on 40...

Editor's inquiry: Someone asked me for a list of commercial stations which can be used as "beacons" to tell what part of the world various bands are open to. If you use any station in this way let me know. We will compile a list, and print it in a future Scuttlebutt if we get enough input.

Dave, KC1Q is selling some programs for the Apple II. Among them are a contest dup/print program, a phased vertical array analysis program, an antenna rescaler, a transmission line program. Some of the programs are from Computer Programs for Amateur Radio by Wayne Overbeck, N6NB, and have been modified for the Apple II. To get them, send Dave a disk and $1.00.

Excess Cargo

For sale: Peter Dahl Hypersil Xformer 120/240 primary, approximately 2100 VAC secondary, with Amp Supply rectifier/filter board. 3000 VDC no load, approximately 2500 VDC at .750 A. $200. Contact Bob, W2XL, at 914/331-0437.

SECRETARY'S REPORT
YANKEE CLIPPER CONTEST CLUB

The winter YCCC meeting was held on 1 December 1984 in Springfield, Massachusetts, with 41 members attending.

K1KI announced that the next meeting will be February 9th in the Hartford area, and the following meeting will be on April 6th in Worcester.

K1XM brought a Dr. DX and ran ten-minute contests, with these results:

KC1Q	2752
K1DG	1218
K2XA	1104
K2WR	765
K2RD	575
N2GC	520
KA2AEV	425

K1KI made a plea for technical articles for the Scuttlebutt and again announced the availability of club QSL badges. He also read a letter from N6TJ thanking us for contributing the CQ placque won by 8P6J. W2RQ is now the CQ awards person. K1KI will decide whether we sponser the cw DXpedition placque or some other placque.

K1DG travelled to an Eastern Connecticut local radio club meeting to introduce them to contesting and to YCCC.

K1KI brought in a new contesting magazine, Radiosporting, which you can subscribe to for about $17/year.

K1VR has a book containing programs for log duping, written by N6ND, and tips for converting the programs to other computers. The book is reported to cost $16.95 and to also be available from Ham Radio. AK4L has started Computer Technical Software, but his CQ WW log program is not done yet. Compuserve is reported to have a CQ duping program available also.

The club welcomed three new members:

Brian	WB1EYL
Ron	K1BW
Dave	N3ADQ

K1DG spoke about the ARRL Contest Advisory Committee. He reported that Washington, D. C., will count as a separate multiplier in contests where states are multipliers (the 10m contest and the DX Test), but not in this year's 10m contest since the rules for that were already published. This was a controversial move because the board of directors made the change over the objections of the CAC. If the procedures used bother you, write to the CAC (care of K1DG) or to your division director (K1KI for New England or N2IL for Hudson). N6TR has been replaced by N6VI, and N2LT represents the Hudson division on the CAC. Doug asked for club feelings about a proposal to change ARRL club categories to depend on the number of club members rather than the number of submitted contest entries. He noted that this would put YCCC and the Dayton Amateur Radio Association in the same club category. He also read a letter to the CAC from VY1CW, who wants VY1 to count as a separate multiplier from VE8 for ARRL SS. Since ARRL (and CRRL) sections are not political divisions but rather administrative divisions within the League, most club members felt that this issue should be referred to the directors, not the CAC. Many remember that there have been efforts in the past to break up the VE1/VO1/VO2 section to make several rare sections, but VY1/VE8 is already the rarest section from all areas anyways.

K1VR showed slides of K1EA's old station, K1OX, and KF1Z's (ex-W1EVT) dipole curtains.

K1KI auctionned off a great circle overlay for a DX Edge to benefit the club.

Rich provided a humor break.

K1KI asked for the club's feelings on several issues he plans to bring up as director: our feelings on contesting on 24 MHz, DXCC credit for 24 MHz, any problems anyone might have with the incoming QSL bureaus, our feelings on expanding the 40m phone band (the club was against this one), who we might want to have speak to the club from Newington (as an ARRL- affiliated club we can have one speaker a year; W1OD was mentionned), how we feel about non-radio-related advertisements in QST, and whether we think QST should pay for articles (say, $50/page).

The meeting allegedly adjourned to the Ground Round. The directions we had to the Ground Round didn't work, however.

Respectfully submitted, Charlotte L. Richardson, KQ1F

1984 ARRL November Sweepstakes
High Claimed Scores

Mike Kaczynski, W1OD

As of December 20, 1984.

CW:

High power:

N5AU	173302	1187	73
(K5ZD, op.)			
W7NI	171112	1172	73
K4VX	169608	1146	74
(KR0Y, op.)			
WA7NIN	168720	1140	74
(W6OAT, op.)			
N2IC	166352	1124	74
N5JJ	163984	1108	74
K5GO	162208	1096	74
W0YK	159100	1075	74
K5MR	157620	1065	74
W2GD	156584	1058	74
W2RQ	155104	1048	74
N6BV	153476	1037	74
W7RM	152588	1031	74
(KB7G, op.)			
W9RE	150664	1018	74
W6YA	148888	1006	74
(N6TK, op.)			
K1TO	147168	1003	73
K7OX	147112	994	74
K8CC	146964	993	74
K1ZX/4	146372	989	74
KN6M/5	145928	986	74
N0GA	144832	992	73
NX4N	144144	1001	72
NI6W	139416	942	74
K3ZO	138232	934	74
K1RM	138084	933	74
KM0L	136752	924	74
W1WEF	136160	920	74
K4BAI	135124	913	74
K6XO	133298	913	73
W8FN	132312	894	74
K4LTA	131838	903	73
K1XA	129210	885	73
KF0H	128188	878	73
KU8E	127872	864	74
W8LNO	125800	850	74
K7QD	124704	866	72
KC0D	123408	857	72
N4TY	121978	859	71
K5RR	121212	819	74
N4SA	120916	817	74
K1VUT	119428	818	73
K5TSQ	119140	805	74
W1ZT	118944	826	72
AI6V	117530	805	73
KG5U	117384	804	73
W6SZN	116920	790	74
AJ6V	116362	797	73
K2SX	115884	783	74
W6RGG	114996	777	74
WD8IXE	114700	775	74
KE9I	114108	771	74
N6XI	112184	758	74
WA2TBA	108624	744	73
K9BG	107494	757	71
W9LT	106992	743	72
K0SCM	106704	741	72
AI9X	106416	739	72
N4KMY	105704	724	73
AI7B	105266	721	73
W5ASP	104192	704	74
K5KJ	103230	698	74
K7HBN	102808	724	71
W6TPH	101908	698	73
N2MM	101500	725	70
KV6H	101380	685	74

low power:

K1ZM	133200	900	74
KY2P	130378	893	73
K4XS	125560	860	73
K9GL	125504	848	74
N7TT	121952	824	74
W0IJR	120324	813	74
(K0EU.op.)			
KM1C	120012	822	73
(W1PH, op.)			
KM9P	118002	831	71
AG7M	117384	804	73
N5JB	114256	772	74
K3WUW	114108	771	74
N6MG	114108	771	74
(KD6PY.op.)			
K0RWL	113960	770	74
K3TM	112420	770	73
KM5H	112332	759	74
K0LUZ	109908	774	71
W0KEA	108484	733	74
WA8MAM	108040	730	74
KB0G	107892	729	74
AA4FF	107004	723	74
AA4NC	106856	722	74
K3VK	105552	733	74
W0HBH	105080	710	74
KT5X	104828	718	73
W2TZ	104448	768	68
W1OD	104160	744	70
W4MYA	100156	686	73
K2PLF	99968	704	71
N6GG	98988	678	73

N6SJ	98124	663	74
N9AW	97090	665	73
KV8Q	96944	664	73
NG0W	96912	673	72
(KJ0D, op.)			
N9NA	96792	654	74
AD0O	94998	669	71
K2NA	94900	650	73
N9EP	94176	654	72
KV0I	93660	669	70
N6ND	93440	640	73
W1ECH	91080	660	69
W4YE	90520	620	73
WC4B	89280	620	72
WB4FOT	89060	610	73
K7KJM	88340	631	70
W6IO	87764	593	74
K8MW	87746	601	73
W0ETT	87408	607	72
KC3X	87264	606	72
K4OAQ	86762	611	71
K5MC	86724	594	73
W0CP	85492	638	67
W1FM	84478	609	71
N2MG	83780	590	71
W7ZMD	83512	572	73
KW5P	81696	552	74
KA8ETK	81558	591	69
K3ZMI	80884	554	73
N7CIX	78472	577	68
KG4W	78108	566	69
WB9JKI	76728	556	69
W6OSP	75740	541	70
W9JOO	75616	556	68
WM4Z	74606	511	73
WA3JLD	74340	531	70
WA0QIT	74244	538	69
(N0EOB, op.)			
W6JTI	74124	522	71
W9GHY	74060	529	70
K5TU	73730	505	73
K8BL	73500	525	70
KZ9K	71120	508	70
N1CWU	71070	515	69
W1XE	70858	499	71
K0FZG	69414	503	69
N7CW	69000	500	69
VE3IRF	67160	460	73
KC3M	66528	462	72
KY2H	65274	473	69

Multioperator:

N6BT	165316	1117	74
(+WA6VEF)			
KJ9D	148444	1003	74
(+KK9Y)			
W0AIH/9	132904	898	74
(K0FVF, K0TG, KM0O, W0HW, WA0RBW)			
KA5W	130388	881	74
(+KM5X)			
N5RM	124100	850	73
(+K5MM)			
K8KA/1	122494	839	73
(+AA2Z, KE3Z)			
W8LT	121360	820	74
(KA3GZS, NZ4K, WD8LXX, KD8NS, ops.)			
AG7M	117384	804	73
KE7C	114048	792	72
(+WB7OJV)			
K6ZM	113664	768	74
(+K6OP)			
K1AR	111000	750	74
(+K1DG)			
K0UK	109372	739	74
(+KD7EY, N0ZA)			
KT7G	105704	724	73
(+K7LXC)			
K8JRK	102200	700	73
(+K8FC, K8JM, KT8Y)			
N4XM	101376	704	72
(+KD4U)			
AA5RX	94024	644	73
(N4JLU, WK4D)			
KK9W/VE4	88060	629	70
K9LJ	80660	545	74
(+AK9N, KU9G, NA9J)			
K4IX	80496	559	72
(+N4BRA, W8JRL, W4HIR)			
N0AX	78336	544	72
(+KA7DGV, KA7THJ)			
KM5R	75776	512	74
(+KA5FSJ, KA5LAQ, NE5V)			
N0IN	75482	517	73
(+W3AS)			
KC5EA	75336	516	73
(+N5AU)			

The **Scuttlebutt** is the newsletter of the **Yankee Clipper Contest Club** and is mailed about nine 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 **Yankee Clipper Contest Club** (an ARRL Affiliated Club) holds four official meetings per year, on Saturday afternoons in March/April, October (at the New England Division Convention when possible), November/December, and January/February. The next meetings will be on Feb. 9, 1985 in the Hartford area and on Apr. 6, 1985. Attendance at an official meeting is *required* in order to become a member. Club members congregate on 3830 Khz Monday evenings; many routinely monitor this frequency other evenings as well.

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	K1RX	Mark Pride	(203) 271-3096	(203) 265-8825
EMass	W1FJ	Al Rousseau	(617) 598-3744	(617) 599-7500x173
WMass	K1RQ	Dana Cobb	(413) 655-8096	(413) 655-2797
VT/NH	KM1C	Bill Pedersen	(603) 673-1678	
ME	K1SA	Bernie Cohen	(207) 773-6589	(207) 797-3585
NNY	K2RD	Ira Stoler	(518) 439-5804	(518) 445-8474
SNY/NJ	K2EK	Bill Gioia	(914) 221-1672	(212) 888-2102

YCCC
11 Michigan Drive
Hudson MA 01749

FIRST CLASS

CQ WW CW Post-Mortem