YANKEE CLIPPER CONTEST CLUB

Scuttlebutt

April 1994 Issue 110

Captain's Cabin

Rich Gelber, K2WR

"Proud to be a Contester"

The editors of QST have seen fit to print yet another letter irrationally critical of contests and contesters (March '94 QST, p. 58), and while we've mostly been beaten into a dull state of boredom by the depressing regularity with which these things appear, this particular piece of correspondence displays such ignorance and self-absorption that I've decided it's incumbent upon me to comment. Besides, there are a lot of new hams out there, and it would be hard to blame them for assuming that the Correspondence column of QST represents a reasonable sample of amateur opinion in the United States (even though most hams I know would usually rather make a half dozen or so QSOs than write a letter). It occurs to me as well that the only official comments made on the subject by the League hierarchy are the very facts that the ARRL continues to sponsor contests and that the contest branch continues to exist. I can't recall any particular editorial comment being made in the recent past (Dave and Mark: yes, that's a hint).

The writer claims that there are "20 or more" ... "large national contests each year ...." Actually, there are four that should affect other users of the bands to any significant degree: ARRL DX SSB, CQWW SSB, CQWPX SSB, and Phone Sweepstakes. It's absurd to think that the Bermuda Contest, the Scandinavian Contest, or the French Contest occupy enough spectrum for enough time to cause anyone a serious problem. Notice I only mention phone contests. For some reason these complaints never seem to emanate from CW operators. Somehow the CW ragchewers have figured out that they almost always can find a place to operate by going higher in the band. Plus, it's my experience that many of the casual CW operators consider the occasional contest to be a benefit rather than a curse, and a fair number of their callsigns show up in the big multi-multi logs from time to time.

So let's examine the phenomenon of HF phone band usage during a phone contest: there are, perhaps, a couple of thousand hams on 20 meter phone at the start of the CQWW seeking to make contest QSOs. There are also a few hundred die-hard ragchewers and net operators who are stubborn enough to try to continue their normal activities on the normal frequencies. All of these hams are trying to do the same thing – communicate with other hams. The difference is that some of the non-contesters have made a value judgment about the communication being attempted by the contesters. And that judgment is that this communication is either without value, or at least of lesser value than their own. I submit that this is a judgment that others have no right to make, at least to the extent of seeking to limit the communication that they have deemed unworthy.

Furthermore, the contesters accept interference as an inevitable aspect of operating on crowded bands. No, this doesn't mean that it is OK to open up on a frequency you know to be occupied – this is both illegal and rude. But contesters understand that when 2,000 hams

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April Meeting

Paul Young, K1XM

The next meeting of the Yankee Clipper Contest Club will be on Saturday, April 9, at the Sturbridge Host Hotel, beginning at 1 pm.

The program will include election of officers.

The Hosts Hotel is located on Route 20 in Sturbridge, Massachusetts, ½ mile West of I-84 (first exit off I-84 when coming South from the Mass. Turnpike).

To get to the Host Hotel, 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 Host Hotel. There is plenty of parking in front of the hotel.

The meeting dates for 1994 are:

DATE	DAY
April 9, 1994	Saturday
June 5, 1994	Sunday
August ?, 1994	Saturday
October 1, 1994	Saturday
December 4, 1994	Sunday

The August meeting is the club picnic. The October meeting is at the ARRL division convention in Boxboro, MA.

Minutes of February 5, 1994 YCCC Meeting

The meeting was called to order by Club President Rich, K2WR. Rich announced that K5FUV was not present because he went to Miami, where it was 81 degrees. The meeting began with introductions of the 81 members present. The club welcomed nine new and returning members: Dick, WU1I, John, KD1IA, Don, KB1KE, Tony, WA1MWN, Bob, WW1O, Jeff, N1OEK, David, WA1QGC, David, WA1TET, and Russell, WA1TTV. The treasury balance stood at $1827.86.

Len, KB2R, club clothing coordinator, then discussed club logo clothing. In addition to the embroidered club jackets ($55-60), he is also investigating club polo shirts ($20 if we order 24 or more, plus $5 for name/call embroidery, plus a one-time embroidery set-up charge of $75 for a 4" logo). He is also looking into club lapel pins and silk-screened T shirts. The club voted to spend $75 from the treasury for the polo shirt logo embroidery setup charge.

Rich announced that the club is a joint sponsor of the Contest Dinner at Dayton on Saturday night in the Stouffers. The bar opens at 5:30, and dinner is at 6:30 (and features chicken). For a ticket, send $25 by April 10th to North Coast Contesters Dayton Dinner, PO Box 59, New Bedford, PA 16140. Rich also announced that Tim, K3LR is no longer running the Dayton Contest Forum. It is now chaired by Doug, K1DG, and Charlie, WZ1R. Speakers include W7RM on his station, KR0Y on the P40L operation, KN8Z on his station, CQ Contest log checking by K3EST and N6AA, G4BUO (on U.K. contest stations), and KC1XX (on his station).

The next Contest University will be held on Tuesday, February 8th, for the EMA and NH areas at the QTH of K1TWF and WN1V.

Charlie, WZ1R, had CQ scores. Kurt, W1PH, is currently off packet. All ARRL scores should go the Charlie, WZ1R, preferably by packet.

Rich announced that the door prizes, to be given away after the break, were a new CQ 1994 Amateur Radio Almanac edited by K1DG with assistant editor WZ1R, and three copies of the IONsound software donated by Jake, W1FM.

The next club meeting will be on Saturday, April 9th, and will be the election meeting. Saul, K2XA, has indicated that he does not want to continue on as club Vice President and Activities Manager for the upcoming year.

The technical program began with a presentation by Dean, N6BV, on expected propagation for the ARRL DX Contests, based on the IONCAP program propagation predictions and charts. Dean is predicting a smooth sunspot number of 45, corresponding to a solar flux of around 100. The computations are based on the following antennas: inverted Vs for 80 and 40 at 100', 3 element Yagi on 20m at 100', and a 4 element Yagi on 15m at 60' at both ends of the path, and 1500W output power. No 10m opening to western Europe is predicted. 15m should open around 12Z and close around 18Z. Dean also showed comparisons of IONCAP, MINIPROP+, and IONsound predictions, which were similar but not identical. Dean also showed analyses of the angles of openings, for all smooth sunspot numbers and all dates. On 10m, 5 degrees is the most common angle, with 60% of the signals common in from 5-7 degrees. He then overlaid antenna patterns on these charts. On 15m, the peak opening from W1 to Europe is also around 5 degrees, with 43% of the signals arriving between 4 and 6 degrees. Thus, a four element Yagi at 60 feet is not optimum. A stack at 90/60/30 is better over flat ground. On 20m, 43% of the openings to Europe are between 10 and 13 degrees. A four element Yagi at 90' is optimized for 12 degrees and thus is a good antenna. A better antenna system is a stack at 120/90/60/30 due to the bimodal pattern with a secondary peak at 4 to 5 degrees. On 40m, 64% of the signals arrive at between 14 and 18 degrees. A dipole at 100 feet is good. On 80m, 83% of the signals arrive at between 18 and 22 degrees. A dipole at 200' is good, if you can put one up. Dean also showed comparisons over real terrain between his station and K5ZD, showing the predicted antenna patterns vs. real rate charts. Any member supplying Dean with a data file of distance in feet from the tower base vs. height above mean sea level (from topo chart) at 45 degrees, 40 degrees, 50 degrees, and 330 degrees, preferably on a 3 1/2" disk, will get a propagation chart. The program does simple reflections only. Also include the heights of the antennas you have, for whatever bands are of interest.

After the break, the door prize drawing was held. Don, AA1V, Anthony, N1KMN, and Jeff, N3MLV, won copies of the IONsound program, and Rick, WC1D, won the book.

Then Charlie, WZ1R, presented this year's Contest Quiz. It was won by Jim, AD1C, with Luigi, AA1AA, coming in second. Charlie then discussed new ideas for the YCCC awards program. He noted that the club's contest participation rate is only 30-50% while other clubs average 80%. Some clubs spend $500-$800 per year on member appreciation. Club President Rich, K2WR, appointed a committee to study club appreciation awards: K2XA chair, WZ1R, K1IU, KC1XX, and two more members to be appointed later.

Following this, the club watched the CQ video "Getting Started in Contesting". The video, which runs for about 40 minutes, belongs to the club and can be borrowed from the Club Secretary.

Respectfully submitted,
Charlotte L. Richardson, KQ1F,
secretary/treasurer YCCC
7 February 1994

Score Rumors

ARRL DX CW

Multi-Multi:

	160		80		40		20		15		10		Total		
KY1H	44	31	303	68	729	95	1,057	111	779	102	108	52	3,020	459	4.1M
(+ AA1AS, NJ1F, KB1KE, K1MBO, KM1P, KB1W, WA2CJT, KF2MM, KB2R, NT2X, KJ4KB, AK4L)															
K1KI	69	44	309	78	1,020	114	1,108	116	926	109	102	50	3,534	511	5.3M
(+ K1CC, W1OD, K1TO, K5FUV, N6BV)															
N2RM	60	42	423	82	1,063	116	1,246	122	960	109	116	57	3,868	528	6.12M
W3LPL	81	46	437	80	1,045	112	1,130	22	970	113	146	68	3,809	541	6.1M
K3LR	55	41	232	66	823	107	1,141	124	869	105	111	55	3,231	498	4.8M
K5NA	58	44	215	68	760	96	1,089	114	784	99	107	54	3,013	475	4.3M
(+ N2GQS, KY2J, N2MCI, KU2Q, NG2X, W5ASP, K5GA, K5KG, K5MA, N5RP, JA9SSY)															
W0AIH	25	16	111	55	295	91	583	94	571	93	113	50	1,698	398	2.02M

Multi-2:

	160		80		40		20		15		10		Total		
N1AU													1,274	312	1.189M
(+ WA1TTV, WC1D, WM1K, ?)															
K1AR	47	40	323	75	1,187	111	1,276	122	1,053	110	90	50	3,976	508	6.05M
(at K1EA, + K1AR, KR0Y, K1MM)															
K1TR	40	36	289	68	964	102	1,081	113	815	99	88	48	3,277	466	4.5M
(at K1MNS, + NX1H, K1JKS, K1RX, K1XM)															
K3ANS													1,982	403	2.3M
N3RS	45	36	134	70	1,009	109	837	111	918	105	90	54	3,183	485	4.5M

Multi-Single:

	160		80		40		20		15		10		Total		
AD1C	42	37	204	64	694	95	652	91	774	93	61	40	2,427	420	3.05M
(at KC1XX, + N1QQO)															
K1DG	38	33	103	55	638	99	659	93	741	91	54	35	2,231	406	2.7M
(+ WZ1R)															
KB1H	25	23	73	47	320	75	519	77	600	75	39	26	1,576	323	1.527 M
(+ KZ1M,K1YRP)															
K1KP	1,604	324	1.5M												
(+ WA1S)															
WA1PMA													673	221	443K
(+ WW1O, WS1F)															
K1TWF													913	280	764K
(+ WA1TET, N1HEO, WT1T ,WB1ELA ,WO1N)															
K4VX	26	20	88	50	435	79	305	79	608	83	60	35	1,522	346	1.5M
K8AZ	33	31	132	63	513	95	558	96	720	?	59	48	2,015	420	2.53M
WX0B													1,173	310	1.1M
6D2X															8M

Single-Op Assisted:

	160	80	40	20	15	10	Total			
WW1E							93	81	22K	
KC1F							1,227	280	1.03M	
K1FWF							162	123	59K	
WA1G							304	143	130K	
K1GW							226	166	112K	
K1IU							1,817	389	2.1M	
WF1L							362	173	187K	LP
K1ONP							860	298	768K	
AA2DU							1,255	330	1.24M	
(at K1VR)										
W2GD							1,365	400	1.6M	
KF2O									386K	
K2SX							1,536	311	1.25M	

Single Op Assisted (continued):

	160		80		40		20		15		10		Total			
WU3M													904	322	873K	
N3RR													975	354	1.03M	
K3SA													770	282	649K	
K3WW	39	32	140	65	583	95	744	88	662	96	47	39	2,215	415	2.75M	
KM0L													684	212	455K	
VE3ET													1,560	410	1.92M	

Single Op:

	160		80		40		20		15		10		Total			
N1CC													849	221	562K	
KA1CZF													309	147	136K	QRP
AA1DN													164	120	59K	
WS1E													654	228	447K	low power
K1EFI													383	180	206K	low power
NR1F													115	47	16K	low power
W1FM													239	120	86K	low power
K1HMO													240	125	90K	
W1IHN													712	235	501K	
W1KM	25	23	239	62	613	75	584	86	759	77	36	25	2,255	350	2.36M	
KA1NCN													37	31	3K	QRP
W2SC													2,169	344	2.23M	
WB2CPU													204	110	67K	QRP
K2LE													1,502	328	1.47M	
K2TE													691	235	485K	low power
AA2U													587	222	390K	QRP
K2XA															730K	no 20M
K3ZO													2,200	361	2.38M	
K5MR													1,571	286	1.3M	
K5ZD	39	32	187	55	800	83	816	87	782	82	49	31	2,673	370	2.96M	
WE6G													385	144	166K	
K7GM/1													1,228	307	1.13M	low power
K8GL													1,106	305	1M	
W9RE													1,500	326	1.46M	
WB9YXY													800	279	669K	
C6AHL (K3DI op)													2,364	242	1.7M	QRP
ZF8BS (AA6KX op)													4,217	316	3.9M	low power

Single Op Single Band:

	Total			
WS1M	118	48	16K	10 meters
AK1N	304	79	72K	40 meters
KB0G	982	106	312K	40 meters
VP5B (K9IMM op)	1,595	58	277K	40 meters
K1WGM		57	23K	80 meters
K1VWL	111	52	17K	80 meters

1994 ARRL DX Contest SSB

Multi-Multi:

	160		80		40		20		15		10		Total		
KY1H	51	33	374	81	261	83	1,320	133	808	117	227	62	3,041	509	4.5M
(+ AA1AS, NJ1F, WM1K, KB1KE, NS1M, KM1P, KB1W, WA1ZAM, KF2MM)															
N2RM	52	37	468	91	559	102	1,635	156	1,648	156	465	72	4,827	614	8.8M
K2WI															1.8M
K3ANS													2,603	477	3.7M
W3LPL	61	38	462	88	524	105	1,866	156	1,261	148	531	69	4,705	604	8.5M
K3LR	45	35	258	84	458	101	1,337	146	1,267	149	520	78	3,885	593	6.9M
W4MYA	44	32	151	66	311	95	?22	144	688	118	188	60	2,590	515	4.0M
P40V													9,625	338	9.7M
6D2X													13,818	354	14.7M

Multi-2:

	160		80		40		20		15		10		Total		
AD1C	29	25	408	79	352	88	1,456	134	1,169	131	117	54	3,531	511	5.4M
(at KC1XX, + K1EA, KD1EA, KM3T)															
K1KP	17	17	106	50	173	73	504	98	660	114	96	44	1,556	396	1.8M
WM2V	9	8	183	57	204	69	632	105	578	113	98	46	1,704	398	2.0M
K3DI													778	366	854K
WT3Q															1.9M
N3RS	31	26	183	70	405	91	969	135	892	137	178	67	1,658	526	4.1M
KS9K	26	20	121	57	270	79	1,067	135	1,138	140	202	61	2,824	492	4.1M
W0AIH													1675	400	2,.0M
KP4BZ	356	52	894	57	1,348	59	1,888	60	2,588	59	2,005	59	9,079	346	9.4M

Multi-Single:

	160		80		40		20		15		10		Total		
N1AU													912	336	918K
(+ WA1TTV, WC1D, KS1E)															
WW1G	0	0	56	?	45	30	294	92	276	87	88	39	759	289	658K
(at WB1HBB)															
KB1H													1,605	404	1.945 M
(+ KZ1M, WA1HYN)															
K1RX	27	25	242	65	180	81	1,190	128	693	122	58	48	2,400	469	3.3M
(at K1MNS + K1BG, K1DG, NX1H, N1HFE, K1TR)															
WN1V													837	340	853K
(+ K1TWF,KT1O,N1HEO,WA1TET,WB1ELA)															
K1VR	33	29	180	61	194	74	917	121	770	114	103	46	2,197	445	2.9M
(+ AA1AA, AA2DU, KA1BQ)															
W3TNQ													1,061	336	1.0M
K5NA															2.4M
(+ KY2J, N2MCI, KU2Q, JA9SSY)															
K5XI															2.2M
K8AZ													1,982	427	2.5M
WX0B													2,082	370	2.3M
W0CP													1,678	322	1.6M
P40V													9625	342	9,8M
PJ9B													8404	341	8.5M
V31DX													9000	342	9.0M

Single-Op Assisted:

	160		80		40		20		15		10		Total			
WS1A													879	277	730K	low power
K1DG	29	24	116	57	169	78	1,103	122	586	118	89	48	2,092	447	2.8M	
(op WZ1R)																
AA1DN													235	148	104K	
WW1E													211	193	122K	
AA1EY													433	203	263K	low power
KC1F															1.9M	

Single-Op Assisted:

	160		80		40		20		15		10		Total			
K1FWF													459	269	370K	
WA1G													442	234	310K	
K1HMO													658	314	618K	
K1IU													979	359	1.0M	22 hrs
WF1L													347	170	176K	low power
KA1NCN													414	218	270K	low power
N1NQD													190	132	75K	low power
K1TO													857	257	656K	15 hrs
WO1P													263	159	124K	12 hrs wires
K2TE													509	255	389K	19 hrs
W2GD													1,092	442	1.4M	
K2ONP													209	183	114K	
K2WK													1,637	433	2.1M	
ND3A													1,231	427	1.5M	
N3AD															2.2M	
N3RR													1,172	417	1.4M	
K3SA													445	266	355K	
K3WW	30	25	167	63	170	78	856	124	190	115			1,817	459	2.5M	
N8ATR													1,059	390	1.2M	
K8MR													485	227	338K	
KS9Z													753	295	659K	15 hrs

Single-Op:

	160		80		40		20		15		10		Total			
WS1A													879	277	730K	low power
K1AR	27	22	188	58	260	71	1,414	133	1,104	116	87	43	3,080	443	4.1M	
KA1CZF													342	157	161K	QRP
AA1EY													733	203	263K	low power
W1FJ													274	133	109K	
AA1FY	31	24	91	48	143	67	341	126	226	99	239	107	1,071	471	1.5M	
W2CRS/0													375	111	91K	QRP
N2LT													2027	388	2.359M	
W2HPF													1,750	363	1.9M	
K2SG													1028	329	1.03M	low power
AA2U													600	236	424K	QRP
K3ZO													1,994	349	2.0M	
K4VUD													1,387	251	1.0M	
K5MR													2,013	339	2.0M	
K5ZD	41	28	201	59	251	73	1,045	110	1,206	118	101	43	2,845	431	3.6M	
N6BV	25	23	190	62	138	61	1,300	124	877	103	75	36	2,605	409	3.1M	
W9RE													2,074	288	2.4M	
KP2/KE2VB													5,608	275	4.6M	low power
VE3RM													1,801	295	1.5M	
ZF2RT (op WA0PUJ)													6,532	342	6.7M	

Single-Op Single Band:

	Total			
WS1M	144	49	20 K	10 meters
KE5FI	370	73	72K	10 meters
K1UO	1,278	134	513K	15 meters
KO7L/1	?	91	187K	15 meters
N9LCR	255	74	58K	15 meters
TG9AJR	1,985	57	339K	15 meters
KS1L	1,773	137	728K	20 meters
KB1GW	179	67	35K	20 meters
ZF2ND	3,756	61	635K	20 meters
W1PH	290	85	79K	40 meters
K8PO	464	89	123K	40 meters
K1VWL	123	57	21K	75 meters

Maximizing Single-Operator Contest Productivity: The State of the Art in Unassisted Competition Today

Part 2

Jeff Briggs, K1ZM

[In the last issue of the **Scuttlebutt** we reviewed the general station design and operating techniques required to break into the "Top Ten" in single-opeartor DX contesting. In this issue, we explore the practical application of *time multiprocessing* within a single-operator unassisted environment. The techniques described, properly employed, can reduce wasted time a a single-op, thereby increasing point production during a contest.]

My current station has been arranged to allow me to *multiprocess* my time, in much the same way as those McDonalds concepts I used as an example. Essentially, I have placed a premium on the maximum flexibility possible in order to allow me to do as many things simultaneously as my mind and motor function will allow. This may sound a bit surreal, so let me quickly move from the abstract into practical examples.

Let's go over the basic elements. My current station has been set up to allow me the ability to operate on any four of the six available contest bands, 160 - 10 meters, independently and simultaneously. To help clarify that statement somewhat, this means there are *4* separate and complete stations set up in the operating room, each with its own amplifier and choice of antennas in order to allow me to "play" with any four bands of my choosing *simultaneously*.

The Start of the Contest - 0001Z...

It is probably helpful to discuss a typical example. In the recent CQ WW CW DX Contest this past November, my station was configured as follows at the start of the contest (0001Z).

Station #1 - Set up to run Europe on 40M at 0001Z

Station #2 - Hot standby for 80M/ Multiplier Search or Instant QSY

Station #3 - Hot standby for 160M/ Multiplier Search or Instant QSY

Station #4 - Hot standby for 20M/ Mutiplier Search or Instant QSY

As the contest begins, the initial focus is running Europe on 40M. However, during CQs by means of headphone splitters, an immediate search begins on each of the other three bands for multipliers. From a practical standpoint, only two bands are really in use, but this is only conditionally true. At times, all four stations are indeed employed with two stations "passively" tuned to pileups waiting "in queue" until I can multiprocess my time, switch the splitter back over to them, in order to work an identified target multiplier.

Time Multiprocessing Operation During A Contest...

Now we get to the most difficult part. How in blazes do you actually operate the thing effectively? Well, the truth is - you do not. At least not initially at the start of the contest and not even all the time. The high rates encountered at the start of a contest do not usually allow enough time to *multiprocess* well. I usually start in earnest when rates fall below 100 an hour.

Things can be managed very effectively at rates of 60 per hour, however. At this rate, you are working stations at a pace of only one per minute. When you stop to think about it, a minute of repetitive CQing with no response is an enormous amount of time that can be put to use on *some other band*. I spend this time looking for other multipliers with the sidetone monitor muted on my *run band*.

Sixty seconds allows for a whole minute of searching for multipliers. Target multipliers identified can either be loaded into memories or, more simply, into one of two VFO's. In this fashion, two multipliers can be "held in queue" at the same time on another radio until I can manage enough time between CQs on my *run band* to switch over to radio 2, 3, or 4 to work them. Using available VFOs alone, up to 6 multipliers can be accomodated on three radios. Use of the band stacking registers on an FT-1000 expands this to 12 possible multipliers waiting in queue.

When time permits, all that is required is for me to stop my CQ machine/keyer on Station #1 just long enough and at the right point in the pileup sequence in order to work the target multiplier. If I execute well, it is possible to hold my running frequency through proper timing of the QSO on the second, third or fourth radio.

The end result is that I am able to perform *running and searching and pouncing for multipliers simultaneously*. There is no question that my operating time is better utilized through this process. A related advantage is that for much of the contest I no longer have to worry about choosing between "running" and "searching and pouncing" as I am doing both anyway via *multiprocessing*.

It also, sadly, has meant for me the death of another technique I used to enjoy doing. Passing multipliers from band to band is no longer the priority activity it once was on Sunday afternoons in a DX contest. This last point, though, is probably debatable. If a very rare multiplier is worked that is needed on several other bands, then it may make sense to pass it. Alot depends upon whether I am "running" stations at the time, what my rate is or if I am merely tuning around at the time.

I feel this technique, once mastered, changes by several orders of magnitude the state of the art being practiced today in single-op all band unassisted contesting. I would even go so far as to predict that this technique may allow a really top operator to generate multiplier totals as a single-op in a DX competition that start to look like those totals generated by the low-end single-operator plus packet entrants. It is something to think about at least.

Daytime Operation...

During daytime operation, there are a number of changes made by me to reconfigure my station for high-band operation. In the very same CQ WW CW

Contest, at sunrise, the 160 station was switched over to become a multiplier station for 20/15/10 using a separate all-band amplifier and its own antennas. The daytime lineup thus looks like this:

Station #1 - Running Station for 20/15/10 Meters

Station #2 - Multiplier Station for 20/15/10 Meters

Station #3 - Hot Standby/Multiplier Station for 40 Meters

Station #4 - Hot Standby/Multiplier Station for 80 Meters

This configuration presents some compromises yet to be refined. However, what it does for me is allow checking of "grayline" propagation on 40 & 80 meters at sunrise and sunset periods while I am running Europe or Japan on one of the higher bands. Admittedly, this is almost impossible to "manage" on Saturday morning on 20/15 meters when the rate meter is hitting over 200 per hour on CT at times. However, Sunday morning is a different matter entirely and my log for this contest reflects some success with *multiprocessing* three bands at the same time.

In the afternoon, this alignment was a *gold-mine* on 40 meters and on two of the three high bands simultaneously. As 10M was pretty poor at my location, I concentrated on running 40CW while simultaneously searching for multipliers on 20 and 15 meters. While I am not sure of the exact multiplier yield for the afternoon, I am convinced it is far better than had I been CQing on one band alone in the conventional style of operating and watching TV or reading the NY Times instead of *multiprocessing* my on-air time!

The Proof Is In the Pudding...

The above techniques really began to pay off for me during the 1993 ARRL DX Contests. In the CW portion of the contest, I was very lucky and managed to beat a better-equipped station (and probably a better operator as well) by *multiprocessing*.

During the Phone weekend, the above techniques helped me to pile up a *huge* multiplier lead over K1DG and N6BV/1 at the end of day 1 - only to lose the contest in the last hour on Sunday afternoon due to a decided disadvantage in high-band aluminum at my station at the time.

Not being loud enough into Europe on day two of the contest prevented me from garnering my fair share of European QSOs on Sunday morning. K1DG and N6BV literally blew me away in European QSOs (check the breakdown grid in QST) and K1DG managed to find enough multipliers in the last four hours of the contest to win by a whisker!

ARRL published an interesting chart plotting our three scores hour by hour during this contest. It probably looked strange indeed to the casual reader; now you know how it was done!

There Are A Few Issues...

1) The most important thing to remember, of course, is never to transmit on another band simultaneously, as that is not allowed in single-operator competition today. In my station, interlocks on footswitches easily deal with this problem. Neither do I employ VOX or break-in cw in my station. Apart from staying legal, I do not accidentally "hot-switch" my amplifier relays this way; I assume the use of footswitches helps my amplifier relays last a lot longer as well!

2) Another important issue that surfaces in *multiprocessing* four stations is interstation interference. This was, and still is, a factor for me. Under the old concept of one man/one radio, this was never a concern to even worry about! But, it sure became one for me when I first tried to operate my station this way.

Basically, you need to treat your station design as if it were going to enter in the multi-transmitter class - at least from the receiving point of view. I solved most of my headaches through the use of ¼ wave shorted stubs on each of my transmit antennas. Particularly thorny band combinations required additional stubs out on the towers. These were placed conveniently at the junctions of phasing lines for stacks, etc.

The use of transmit bandpass filters is another obvious way to go although I am not yet using these in my station. Their use would require me to switch them in and out on those bands where my radios share bands. Thus far, I just have not had time to take on the additional work required so I "live" with the residual crud that I still encounter. At a point in the future, I will probably give them a try.

3) An issue related to multiband interference that I learned the hard way some years ago is that you absolutely must test all antenna/rig combinations to ensure you do not blow out the front-ends of your radios as you *multiprocess*. At my station, antennas are close together and this was a nightmare for some antennas.

The safest way to test this is to conduct trials using low voltage Radio Shack bulbs in series with the front-end of your radio. I start with 12v bulbs and test all combinations, noting which combinations cause the bulbs to blow. If the 12v size hangs in there, I repeat the whole process at 6v and finally using the 1.5v size.

I discovered I had some really awful combinations. The worst was a 20M yagi and 40M yagi on the same mast. I could transmit on 20M okay, although the "crud" on most of 40M was objectionable. However, if I made the mistake of transmitting on 40M, a 12v bulb in series with my 20M radio would blow immediately. Interestingly enough, it is actually alot of fun to turn off the lights in my shack to see if these bulbs develop any color at all. If they remain totally dark or if the 1.5v variety does not blow, then that particular combination will not cause front-end heartache during a contest.

I finally wound up placing 1.5v bulbs in small, shielded boxes in series with all of my front-ends because I did not trust myself to remember which antenna combinations caused problems, especially when I was tired on Sunday afternoons. This turned out to be a very wise move. In CQ WW CW, at the end of the contest, the final score was (4) front-ends "still alive" and (6) Radio Shack 1.5v bulbs "very, very dead".

You may find, as I did, that your high band antennas are pretty clean combinations. My biggest troubles occur on the low bands with too much transmit RF

from my 160/80 verticals getting into Beverage receive antennas. In my case, I have to remember which band combinations and beverage combinations are okay and which ones are not. Admittedly, it is mental torture during a contest but, hey, only (6) dead bulbs in 48 eight hours! Maybe next time out I can reduce this number to only three!

One other thing I have done to help myself in this area is to put up a separate tower dedicated to multiplier antennas for the three high bands, 20, 15 and 10 meters. This tower was placed at the far extreme of my property and is so sited as to force the tips of my yagi antennas to face each other when I am running Europe. This is an old trick learned years ago from a Murphy Marauder Field Day. By arranging running stacks and multiplier antennas with their tips facing each other, I achieve the maximum natural cancellation possible when I am beaming Europe. This is probably good for at least 20 db of "crud" cancellation on harmonically related bands such as 20 and 10CW, for example.

4) Another factor to consider when attempting multiprocessing is overcoming one's natural inability to do two things at the same time. For example, have you ever tried to send CW and talk to your wife at the same time during a contest? Try it sometime. For some, it is easy. For most of us however, it is very difficult to do.

Operating only two radios in the manner described takes supreme mental concentration. I do not pretend to claim that I am good at it. I find it requires the utmost in concentration and when I am tired my motor function plays tricks on me. This usually comes in the form of throwing the wrong splitter switches, or forgetting which band or VFO a multiplier in queue was placed in. Or, I may find myself stepping on the wrong footswitch to work a multiplier and then wondering why the keyer is not keying up the desired transmitter!

Like anything else, though, one can get better with practice. It has taken me two years to become somewhat proficient. Maybe others can expand the envelope further and then let the rest of us know how they are doing it! If you try this, I can promise you one thing for sure. At first you will experience humility; but as your skills progress, you will experience a whole new level in single-operator unassisted contesting. There is no question that time multiprocessing sharpens one's skillset as an operator and, for me anyway, it has helped offset other weaknesses present at my specific station location.

Multiprocessing on the "Run Band"...

Without a doubt, this is the most challenging form of *multiprocessing* I have yet attempted. One only has perhaps 3-5 seconds to search for multipliers in between CQ's without the loss of a desirable "run" frequency! It also requires a true "dual receive" radio such as the Yaesu FT-1000 or the Kenwood TS-950SDX. In my station, I employ FT-1000 radios as my choice and they do allow me to find additional multipliers during listening periods.

If you have never attempted this before in a contest, I suggest you practice a great deal first. In my case, I spent weeks listening to the FRC group on 3.753Mhz each night and working the 75 meter "Dx Window" simultaneously in dual-receive mode.

Then, I entered the 1992 CQ WW CW DX Contest operating single-band 80 meters. Use of *multiprocessing* in dual-receive mode paid off handsomely here too. It allowed me to ferret out many Caribbean DXpedition pileups that I am sure I would have missed during run periods.

While finding the multipliers was important, I think the more important benefit derived was an ability to "run" Europe during the entire time the band was open for me. Never did I break up "runs" and resort to "search and pounce mode" for multiplier gain at the expense of 3-point European contacts. I am sure this contributed materially to my overall final score. Again, this is mentally very taxing to manage but can be a plus during low-rate periods if you force yourself to "hang in there".

In Closing...

It would be fun hearing about related techniques currently being employed within the single-op contest community. As stated at the outset of this article, I am reasonably certain that this theme is not really new ground at all. Perhaps the topic could be explored in more detail in a panel discussion at the upcoming Contest Forum at the Dayton Hamvention this year? Should that come to pass, one thing's for sure - you know I will be in the audience trying to learn more about this really exciting approach to single-op contesting today!

Captain's Cabin

Continued from page 1

attempt to do the same thing within 150 kHz or so, there is no such thing as a perfectly clear frequency. Indeed, learning to communicate through moderate or even severe QRM is one of the principal challenges of contesting. However, it seems that some non-competitive users fail to accept the fact that at the moment of the start of a major contest, they immediately become minority users of the band in question. It matters little that they may use these frequencies more regularly, on a cumulative-time basis, than any member of the horde of contesters descending; all hams have equal claims on the right to use any particular (amateur) frequency that is available at any given moment. And the contesters accept as a given a certain degree of QRM. Even at the height of the most hotly contested DX event, there is spectrum available at the higher end of the bands, not to mention other bands where propagation does not favor the contesters at that moment, or even other modes that are not part of that particular contest.

The point is that the bands are crowded during contests because there are a lot of contesters. This club alone has over 250 members. We attend a lot of conventions, hamfests, etc. I think we need to be at least as high profile at these events as our stations are on the air. If you don't have a club badge, get one. If you have a club jacket or shirt, wear it proudly. It's beyond promoting YCCC; we need to promote CONTESTING, and show the new hams and the OT's as well that there are a lot of us, we have a right to pursue our chosen end of this hobby, and that our use of the spectrum is every bit as valuable as anyone else's.

New Crew

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

Dick Rainville, WU1I
126 Cockle Hill Rd.
Salem, CT 06420
phone: (203)859-2776

John Sexton, KD1IA
1724 South Rd.
Kingston, RI 02881
home phone: (401)784-2915

Don DeZarn, KB1KE
37 Pine St.
Dalton, MA 01226
home phone: (413)684-3964
work phone: (413)494-6064

Tony Penta, WA1MWN
66 Pleasant Ave.
Lynnfield, MA 01940
home phone: (617)334-3945
work phone: (617)227-1333

Bob Dugan, WW1O
PO Box 714
Bedford Hills, NY 10507
home phone: (914)628-0076

Jeff Struven, N1OEK
5 Royal Crest Dr., Apt. 1
North Andover, MA 01845
home phone: (508)682-0688
work phone: (508)659-2858

David Fox, WA1QGC
PO Box 666
Dighton, MA 02715
home phone: (508)669-5859
work phone: (508)252-5025

David Foner, WA1TET
c/o Picturetel Corp.
10 Technology Dr.
Peabody, MA
work phone: (508)977-8603

Russell Corkum, Jr., WA1TTV
7 Elm St. #4
Acton, MA 01720
home phone: (508)263-8135

Movers and Shakers

Charlotte, KQ1F has a new work phone number: (508)493-5132

Excess Cargo

For sale by Bob Halprin, K1XA, telephone (203)722-2358:

Heath SB-200 amplifier, 80-10 meters, approximately 500 watts output running two 572Bs. $300.00.

Alpha 76 2-kW amplifier, 160-10 meters, three 8874s. $1000.00.

Have manuals for both. Price includes personal delivery to your door anywhere in the Mass./Conn. area.

For sale: IC-781. Used very little. B/O $4500. Bill Welch, K1CLN (508)653-2347 (evenings).

ON4UN Antenna Talk

John, ON4UN will be in Massachusetts and will give his famous low band antenna talk on the evening of May 13. Exact place will be defined by how many people will be interested. If you want to attend, contact W1EYT via mail or packet for more information.

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 club score in contests.

FAMILY MEMBER Members of the same family living at the same address may elect to receive only one copy of the **Scuttlebutt**. 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 currently costs $10 per year. 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 (508)562-5819. The deadline for each issue is usually three weeks before the next meeting.

CLUB BADGES are available from WZ1R. Send two dollars, Your callsign, name, and mailing address to WZ1R-YCCC Badge, P.O. Box 9106, Pawtucket R.I. 02862

CLUB JACKETS Len, KB2R coordinates group purchases of club jackets.

CLUB QSL CARDS are ordered through John Dorr, K1AR, 8 Anchor Lane, Mt. Sinai, NY 11766.

PACKET NET information is available from Charlie Carroll, K1XX, Candlelight Rd, Ringe NH 03461.

CONTEST SCORES are sent to the club scorekeeper, Kurt Pauer, W1PH.

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 (508)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.

***CT* CONTEST LOGGING SOFTWARE** is available from K1EA Software, 5 Mount Royal Avenue, Marlborough MA 01752 for $69.95 plus sales tax. Telephone (508)460-8873, FAX (508)460-6211, BBS (508)460-8877.

W1 QSL BUREAU is sponsored by the YCCC. Keep your account up to date with SASEs, or send a check. Stamps are sold at face value, envelopes are 10 cents each. W1 QSL Bureau - YCCC, PO Box 216, Forest Park Station, Springfield, MA 01108.

ARRL LIAISON For ARRL matters, contact Tom Frenaye, K1KI, PO Box 386, West Suffield CT 06093, home phone (203)668-5444.

Dues are $15 per year, payable 1 April. Non-members may subscribe to the **Scutttlebutt** 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 $10 towards dues.

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, usually in the Sturbridge, Massachusetts area. The deadline for article submission to the **Scutttlebutt** is usually three weeks before the next meeting date. The next meeting will be on Saturday, April 9, 1994. Attendance at an official meeting is required in order to become a member. Club members congregate on 3830 after contests. The packet frequencies for DX spotting are 144.95, 145.69, 144.93, 144.97 and 144.99 MHz.

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

Officers:

President	Rich Gelber	K2WR	212-580-1075
VP–Activities Manager	Saul Abrams	K2XA	518-439-5700
Secretary–treasurer	Charlotte Richardson	KQ1F	508-562-5819
Editor	Paul Young	K1XM	508-562-5819

Area Managers:

Area	Call	Name	Home	Work
CT/RI	K1RU	Gene Frohman	203-393-1772	203-386-6137
EMass	N1AU	Bill Santelmann	617-862-1753	508-692-6000
WMass	W1GG	Gary Gaudette	413-443-3404	
VT/NH	K1GW	Glen Whitehouse	603-673-6290	603-627-7877
ME	N1AFC	Peter Archibald	207-767-2169	207-797-8931
NLI	NQ2D	Jim Metcalf	516-744-9422	516-467-4800
NNY	K2TR	Fred Lass	518-355-4813	518-346-6666
SNY/NJ	K2EK	Bill Gioia	914-221-1672	914-697-3250

YCCC
11 Michigan Drive
Hudson, MA 01749

First Class

ON4UN Antenna Talk May 13 - See page 10.