N.E.W.S. LETTER

The Publication of the North East Weak Signal Group

JULY 1997 VOLUME FIVE ISSUE THREE

NEXT MEETING

THE NEXT MEETING IS ON JULY 12TH, 1:00 PM AT THE HARLEY INN
ALL ARE WELCOME TO THE DIRECTORS MEETING AT 11:00 AM
MICROWAVE/HOMEBREWERS SHOW AND TELL GATHERING
WITH N1BWT SUN NOISE MEASUREMENTS

IN THIS ISSUE

NEWSLETTER ON THE WEB IN POSTCRIPT @ HTTP://QSL.NET/KD1DU

THIS FILE FORMAT CAN NOW BE READ AND PRINTED WITH GHOSTSCRIPT SHAREWARE

N.E.W.S. GROUP NET EVERY THURSDAY 8:30 PM LOCAL 144.250

KD1DU NET CONTROL, WZ1V ALTERNATE
STARTS EAST THROUGH NORTH THEN SOUTH FOR DIRECTIONAL CHECKINS
THEN BACK AROUND AGAIN FOR COMMENTS AND GRID HUNTING

MEMBERSHIP in the N.E.W.S. Group is $10 per year. Apply to Fred Stefanik, N1DPM, 50 Witheridge St., Feeding Hills , MA 01030 (413) 786-7943 You may download an application from our web page http://uhavax.hartford.edu/newsvhf

ON THE BANDS
BY RON KLIMAS WZ1V, FN31

May 30th was a wet noodle night on the microwave bands after 0100Z. AA2UK FM29 and I ragchewed on 2304 FM simplex while setting up a sked for 3456, which was easily completed, netting a new grid for both Bill and myself on that band.

Has Roxbury ever crossed your mind? Well, for the past month it was all I lived and dreamed, from getting permission from the property owner for the club to set up there, down to outfitting a 15 foot moving van with operating setups complete with PCs for logging. Needless to say it kept me off the bands this past month. My observations during the June contest from KB1BWB were that the bands were wide open with Tropo Saturday morning before the contest, and again Sunday night after we had already broken everything down. Better luck next time I guess. 6 meter conditions were by far the best Saturday. I was lucky enough to catch a string of 7's on double hop Es Saturday night, many of them being new grids. Check out rumoured scores from the June contest elsewhere in this issue.

I'd like to report that Joe WA2ZFH in FN30 is now active on 1296 with a real antenna (We worked back on May 23 on SSB). Also note that Del KD1DU in FN31 is now QRV on 2304 with a mast mounted 1 Watt transverter to 45 el. and is 10dB/S9 at my place.

That's all I have, gang. See you at the July 12 meeting and on the bands! Keep things in tune for the upcoming August UHF contest and Don't forget to check into our Thursday night net on 144.250 starting around 8:30pm local, KD1DU net control (WZ1V alternate). And Please Send reports of DX or Expeditions to me, Ron Klimas, 458 Allentown Rd., Bristol, CT 06010 or call 860-589-0528 if you have something you'd like to share about an unusual contact, etc. We could have had a full column if any of you sent reports.

Looking for Ham/Engineering software or tech info?
Try our Internet Webpage at http://uhavax.hartford.edu/newsvhf

Subscribe to our NEW VHF E-mail Reflector at newsvhf@qsl.net

73, Ron WZ1V, internet email: wz1v@connix.com 50 through 3456 MHz.

FROM THE PRESIDENTS SHACK
RON KLIMAS WZ1V, FN31

I don't know about everyone else, but I had a great time last meeting checking out W1QWJ's new HB 6 meter amplifiers. It's so good to see homebrewing still alive in this "plug-n-play" age.

The N.E.W.S. Group made it's debut in the June Contest arena as we sponsored the KB1BWB Multi-Multi operation. Never have I seen so much preparation come together so fast and so successfully as with this effort. Our success was only possible because of the determination of it's team players: Mark AJ1X, who lent us his operating experience from Above All Mtn. in addition to his XYL's laptop PC for logging. Stan KA1ZE who brought his famous "Rover-mobile" setup for 2 Meters plus the microwave bands. Fred N1DPM who engineered the four 45' rotating poles, antennas and feedlines for the lower 4 bands, and lent us his killer 1500 watt 6 meter station. John N1MUW who provided the 27 foot trailer to get all that antenna stuff to our site and worked us our 100th grid on 6 meters. Dave N1SAG who supplied us with generator power, all the gas and coffee we could drink, and his 432 station. We even had help on the sidelines, thanks to NA1W for an extra generator and NC1I for tables, power cords, and the 222 preamp. As for yours truly, I just went along for the ride - but oh what a ride it was! Consider the fact we really didn't have all the bands operating until Saturday at 6 PM and packed it in Sunday at 5 PM, then take a look at our totals and you be the judge - Is this something you'd like to see our club sponsor every year? Would you like to become part of a brand new winning team? Let us know. Together we can.

A call to the league confirmed that we must wait until December this year before we can apply for our club's memorial callsign. (Our current club station call is KB1BWB).

Rene VE2UG announced that he is donating the W1RJA 2 meter transcontinental beacon to the club in light of it's worthy purpose. I've been running it on the bench the past month and so far it has failed and been repaired twice. Best to find the bugs now not later. We are still needing a yagi antenna and a site. If Cape Cod falls through for some reason, I am arranging an alternate coastal site in Mystic, CT.

We still need a Proceedings Editor for our August 22-24 VHF/UHF Conference. Contact chairman Stan Hilinski KA1ZE ASAP if you can help. We are also calling for papers for this year's Proceedings. Again, contact Stan if you can help. 860-649-3258.

Don't miss our July 12th outdoor Microwave/Homebrewers Show and Tell Gathering in the Enfield CT Harley Hotel rear parking area. Bring your goodies to show off or just come and peruse. Swap and Selling and just plain socializing is of course, most welcome. Again this year, Paul Wade N1BWT has graciously offered to perform 10 GHz Sun Noise Measurements, weather permitting. (Paul asks that no one transmits in the area! 5760 is possible if there's time). The club will provide cold soda outdoors this year. We'll have our indoor meeting room available in case of rain. Hope to see you all July 12th. 73's 'til then, and I'll see you on the bands...and on our NEWS Group Thursday night net!

Ron, WZ1V, 50 - 3456 MHz

MAY 1997 BOARD MEETING
MARK CASEY, N1LZC

The May director's meeting was attended by directors WZ1V, WA2TEO, N1DPM, N1LZC and NEWSletter editor KD1DU.

The beacon is progressing, K1WHS will be assembling an antenna.

Fred needs to recieve the NEWSletter 3 weeks before the meeting and Del will need articles 4 weeks before the next meeting.Fred noted the NEWSletter mailing is about $150 per issue.

NEWS has 169 paid up members, 9 additonal active with outstanding dues and $1625.92 in our accound according to Fred, reporting for treasurer Frank, NC1I.

The baord voted to present Stan, KA1ZE with a $100 dinner certificate in recognition of his continuing sponsorship of our meeting room at the hotel in Enfield and in the past in Verno.

The board will consider funding future club contest efforts.

The secretary represented the club at the New England Spectrum Management meeting and notes our effort to be represented in regional band planning in the future. The meeting was adjourned at 12:05 PM.

Respectivly submitted, Mark Casey, N1LZC

SOME JUNE '97 ARRL VHF CONTEST RUMOURED SCORES: BY WZ1V

CALL	W2SZ/1	K3MQH	K3YTL	AA9D	W4IY	K2TXB	N2YB	KB1BWB	N2WM	W3IP	WA5YWC
GRID	FN32	FM19	FN11	EN52	FM08	FN02	FN12	FN31	FN21	FM19	CM99
CLASS	M/U	M/U	M/U	M/U	M/U	M/U	M/U	M/U	M/U	M/U	M/U
50	677/131	557/121	423/92	556/163	527/109	396/120	223/71	469/100	406/80	148/56	113/19
144	569/48	864/73	585/62	368/64	521/71	295/64	276/48	322/37	283/34	247/37	240/29
222	157/33	185/54	118/31	107/40	98/43	43/25	97/34	58/21	49/22	55/23	72/17
432	303/40	304/59	200/40	196/45	179/50	89/33	131/37	117/27	87/23	107/29	96/19
903	80/23	25/16	34/20	30/18	23/15	23/17	33/18	11/7	9/8	21/14	0/0
1.2	95/21	51/19	54/24	56/25	38/22	34/24	41/17	16/8	13/9	31/14	34/10
2.3	50/14	9/5	15/10	13/9	8/5	0/0	11/8	5/3	7/6	8/6	0/0
3.4	34/10	0/0	8/6	15/8	0/0	0/0	1/1	2/2	0/0	0/0	0/0
5.7	35/10	2/1	6/5	15/7	0/0	0/0	2/1	0/0	0/0	0/0	0/0
10G	35/7	0/0	5/2	10/5	1/1	1/1	3/1	0/0	0/0	1/1	0/0
24G	20/7	0/0	0/0	2/2	0/0	0/0	0/0	0/0	0/0	0/0	0/0
47G	1/1	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
LAS	0/0	0/0	0/0	9/2	1/1	0/0	3/1	0/0	0/0	0/0	0/0
TOTAL	2056/345	1997/348	1448/292	1377/388	1396/317	881/284	821/237	1000/205	854/182	618/180	555/94
SCOR	1.16M	929000	596848	793072	578000	321000	297909	256250	192010	157000	74354
CALL	W2SZ/1	K3MQH	K3YTL	AA9D	W4IY	K2TXB	N2YB	KB1BWB	N2WM	W3IP	WA5YWC

CALL	K8GP	K1TR	N2HLT	W1SJ	W5KFT	W1TKZ	NI9E	W7IY	KA1EKR	N4ZWQ	WB9AJZ
GRID	FM08	FN44	FN12	FN21	EM00	FN33	EN63	CN82	FN42	FM16	CN70
CLASS	M/L	M/L	M/L	M/L	M/L	M/L	M/L	M/L	M/L	M/L	M/L
50	645/141	450/101	306/91	280/48	365/128	168/60	84/29	92/56	103/33	103/51	67/32
144	423/80	298/29	190/38	366/34	107/30	130/26	172/41	104/27	89/19	67/25	103/24
222	107/46	82/22	80/29	65/21	14/10	36/15	12/7	0/0	29/11	15/11	0/0
432	175/62	120/26	140/31	111/25	51/18	48/16	71/30	31/13	47/13	21/10	20/10
903	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	-/-
1.2	0/0	0/0	0/0	0/0	0/0	0/0	0/0	8/7	0/0	0/0	-/-
TOTAL	1350/329	956/178	716/189	822/128	537/186	382/117	339/107	235/103	268/76	206/97	214/67
SCORE	540592	206000	176904	127700	107000	54000	45154	29046	25144	23474	14338
CALL	K8GP	K1TR	N2HLT	W1SJ	W5KFT	W1TKZ	NI9E	W7IY	KA1EKR	N4ZWQ	WB9AJZ

CALL	WA2TEO	K1RZ	AA2UK	W3OR	KE8FD	KD1DU	K1RO	WB2DNE	N8UM	K5MA	N5HHS	AF1T
GRID	FN31	FM19	FM29	FM28	EM89	FN31	FN31	FM19	EM85	FN41	EM10	FN43
CLASS	S	S	S	S	S	S	S	S	S	S	S	S
50	295/88	257/68	128/45	180/70	72/33	112/26	265/57	137/41	203/78	241/53	353/120	181/54
144	366/48	269/42	182/41	190/40	208/63	322/40	265/31	153/33	146/45	187/24	166/27	133/22
222	81/28	75/26	64/28	55/25	69/40	67/25	55/20	56/25	33/20	56/21	0/0	43/16
432	150/35	122/31	91/32	105/31	107/43	88/24	84/21	78/26	58/25	106/22	37/13	69/18
903	35/19	30/16	27/17	22/11	17/11	23/11	9/6	26/18	7/6	0/0	0/0	12/7
1.2	45/19	47/17	50/24	28/14	29/18	33/12	18/8	24/12	7/7	0/0	0/0	18/7
2.3	15/9	8/6	19/11	2/1	0/0	9/5	0/0	0/0	0/0	0/0	0/0	5/4
3.4	0/0	0/0	9/5	2/1	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
5.7	0/0	0/0	8/4	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
10G	0/0	0/0	2/2	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
TOTAL	987/246	808/206	580/209	584/193	502/208	654/143	696/143	474/155	454/181	590/120	506/160	161/128
SCORE	350058	243698	209627	165208	160160	135564	127127	109740	103713	90240	86880	82944
CALL	WA2TEO	K1RZ	AA2UK	W3OR	KE8FD	KD1DU	K1RO	WB2DNE	N8UM	K5MA	N5HHS	AF1T

Please send additions/corrections to: wz1v@connix.com

CALL	VE3AX	VE5UF	N6NB	N1BWT	K0GU	K8MR	WA1MBA	N8ZJN	N6HKF	KE8RO	N3VBG	N9JR	W7IY
GRID	FN02	DO61	DM05	FN42	DN70	EN91	FN32	EM79	DM14	EN81	FM19	EN63	CN82
CLASS	S	S	S	S	S	S	S	S	S	S	S	S	S
50	64/40	522/128	147/37	117/41	247/132	87/37	0/0	71/40	42/23	109/56	268/87	91/37	92/56
144	155/48	2/2	139/33	127/23	53/18	106/35	135/28	63/31	133/30	78/30	41/9	91/23	104/27
222	49/28	0/0	40/18	40/15	3/3	35/22	0/0	24/16	29/19	0/0	0/0	29/15	0/0
432	57/30	0/0	66/21	57/16	7/4	69/29	59/21	35/18	54/20	52/20	0/0	44/15	31/13
903	0/0	0/0	0/0	11/6	0/0	0/0	20/11	0/0	0/0	0/0	0/0	0/0	0/0
1.2	14/8	0/0	17/10	16/5	0/0	0/0	27/13	9/4	0/0	0/0	0/0	0/0	8/7
2.3	0/0	0/0	0/0	0/0	0/0	0/0	8/6	0/0	0/0	0/0	0/0	0/0	0/0
3.4	0/0	0/0	0/0	0/0	0/0	0/0	5/5	0/0	0/0	0/0	0/0	0/0	0/0
5.7	0/0	0/0	0/0	1/1	0/0	0/0	3/3	0/0	0/0	0/0	0/0	0/0	0/0
10G	0/0	0/0	2/1	4/3	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
TOTAL	339/154	522/128	409/119	371/108	310/157	297/123	261/90	202/109	258/92	239/106	309/96	255/90	235/103
SCORE	72842	66816	65531	57348	50240	49323	42660	31392	31372	30846	29664	29520	29046
CALL	VE3AX	VE5UF	N6NB	N1BWT	K0GU	K8MR	WA1MBA	N8ZJN	N6HKF	KE8RO	N3VBG	N9JR	W7IY

CALL	AA7A	NN9K/0	N6KBX	N7STU	W1COT	N6PYI	K1AE	KC8CSD	N9PBA	N8CGY	K1LPS	K6YK	NI6G
GRID	????	EN11	CM98	DM07	FN31	DM05	FN42	EN81	EN55	EN74	FN34	CM97	DM06
CLASS	S	S	S	S	S	S	S	S	S	S	S	S	S
50	114/60	214/128	87/28	54/20	44/18	30/14	226/54	69/34	141/65	87/56	63/34	19/7	8/5
144	90/27	0/0	125/25	103/25	83/20	103/27	62/17	72/28	28/16	29/13	45/18	116/22	117/25
222	0/0	0/0	0/0	0/0	32/13	28/15	0/0	0/0	5/5	9/7	9/7	27/8	0/0
432	36/18	0/0	72/21	62/21	52/17	43/17	0/0	40/21	7/6	13/6	13/9	27/5	41/15
903	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	1/1	0/0	0/0
1.2	0/0	0/0	0/0	20/9	15/6	7/6	0/0	0/0	0/0	0/0	1/1	0/0	0/0
2.3	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
3.4	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
5.7	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
10G	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
24G	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
LAS	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
TOTAL	240/105	214/128	284/74	239/75	226/74	210/78	288/71	181/83	181/92	138/82	132/70	189/42	166/45
SCORE	28980	27392	26344	25575	25160	23010	20448	18343	17756	13120	11060	10206	9315
CALL	AA7A	NN9K/0	N6KBX	N7STU	W1COT	N6PYI	K1AE	KC8CSD	N9PBA	N8CGY	K1LPS	K6YK	NI6G

CALL	N1RWM	N0UK	VE9AA	N8NQS	WA2ZFH	WA3LTB	AA4NC	KO0U/1	K1WVX	W1VT	N0JK
GRID	FN42	EN33	FN65	EN72	FN30	EN92	FM05	FN42	FN31	FN33	EM18
CLASS	S	S	S	S	S	S	S	S	S	QRP/P	QRP/P
50	158/34	57/34	145/53	52/32	12/5	0/0	49/26	0/0	61/29	118/32	64/44
144	44/12	22/10	0/0	36/16	28/7	102/33	27/17	66/15	25/10	115/20	29/15
222	0/0	6/5	0/0	0/0	7/4	0/0	0/0	0/0	5/4	63/16	0/0
432	0/0	13/5	0/0	0/0	23/8	0/0	0/0	35/14	3/2	101/16	2/2
903	0/0	5/3	0/0	0/0	0/0	0/0	0/0	0/0	0/0	21/11	0/0
1.2	0/0	2/2	0/0	0/0	9/6	0/0	0/0	9/7	0/0	33/13	0/0
2.3	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	11/9	0/0
3.4	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	8/6	0/0
5.7	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	3/2	0/0
10G	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	6/3	0/0
24G	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
LAS	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
TOTAL	202/46	105/59	145/53	88/48	79/30	102/33	76/43	110/36	94/45	479/128	95/61
SCORE	9292	8142	7685	4224	3810	3366	3268	5868	4590	106880	95/61
CALL	N1RWM	N0UK	VE9AA	N8NQS	WA2ZFH	WA3LTB	AA4NC	KO0U/1	K1WVX	W1VT	N0JK

Please send additions/corrections to: wz1v@connix.com

SCORES CONT'D. ROVERS

ROVERS	Score	Totals	Grids	Bands	
AB4CR/R	216000	539/202	14	ABCD9EFHIJ	Ops N4GN, AB4CR
W2FU/R	127500	545/133	5	ABCD9EFGHI	Ops W2FU, K2CS
N9MWB/R	92452	500/108	8	ABCD9E	Ops N9MWB, K9WR
WB9SNR/R	75285	355/97	8	ABCD9EFGHI	
W3EKT/R	70720	610/76	4	ABCDE	Ops W3EKT, K3IXD
K7XC/R	67008	545/96	17	ABCD	
N1MJD/R	60588	496/91	11	ABCD	Ops N1MJD, N1JEZ
WB2QLP/R	44323	292/127	5	ABDE	First time Rover
N3LJK/R	36828	244/99	4	ABCD9EF	Ops K3YWY, N3LJK
AF6O/R	24366	298/56	6	BCD	
N3OC/R	21248	193/64	8	ABCD9E	
W9FX/R	20825	185/77	8	ABCD	Ops W9FX, N9BJG
KF9US/R	13986	136/67	7	ABCDE	
N1RWY/R	8532	158/54	5	AB	
WA2VOI/R	8190	123/42	7	ABCD9E	
N6RPL/R	6068	140/29	12	BD	

NB2T REPORT

Lou's activity for May 97 included:
4/25/97 W2DRZ (FN02) on 432 for a new grid
5/1/97 KA2RDO (FN12) on 432 for a new grid
5/1/97 WD8ISK (FM18) on 432 for a new grid
5/1/97 K4QI (FM06) on 432 for a new grid
5/10/97 in the sprint worked WA2TEO, AA2UK, WA3AXV and K2TXB for 3 new states and grids on 1296

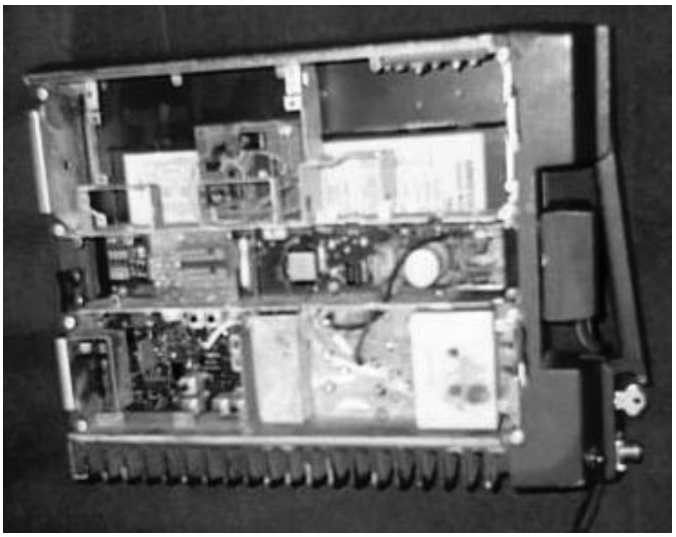
Heard WA2UMX/B for 12 days, W9IP/B for 2 1/2 min. and W2RTB/B for 3 days and W3CCX/B on 432 for 29 days

With enhancement:
5/29/97 worked K5MA (FN41) on 432
5/29/97 worked KU3T (FN20) on 432
5/29/97 worked K3XT (FN20) on 432
5/29/97 worked K4QI (FM06) on 432
5/29/97 worked K4QI (FM06) on 144
5/29/97 worked W1PBB (FN31) on 144
5/29/97 worked K3XT (FN20) on 144
5/29/97 worked N1DVL (FN32) on 144
5/29/97 worked W1LP (FN41) on 144
all between 0200 and 0310 Z

Lou says it was good to see band open with great signals on 432 and 144.

73's from Lou, NB2T FN30bs

W1RJA/B FN41 BEACON TRANSMITTER



K1JRW SILENT KEY

I was deeply saddened to learn that Rick Robinson, K1JRW passed away June 14. Rick was 78 and had been undergoing cancer treatments for the past several months. Rick was one of the first VHF'ers to confirm 100 countries on 6 Meters, earning DXCC Award #12. I'll best remember Rick for his friendly and helpful manner on the "gentleman's band": He was a vigilant watcher who was always glad to alert others to band conditions and share news of interest. This upcoming cycle won't be quite the same without Rick.

Sympathy cards can be sent to his daughter, Ellen McKay, West Pelham Rd., Shutesbury MA 01072.

73, Ron WZ1V

SILVER BRAZING FOR BETTER MICROWAVE ANTENNAS
PAUL WADE N1BWT

For several years, I've been making microwave horn antennas using templates generated by my HDLANT computer program. I hope some of you have found it useful as well. Now I'd like to share a better way of soldering them together.

Recently, I was showing a horn template to Bob, WA1ZJG, a retired machinist. He took his torch and a shiny stick of metal and soldered a seam together with no flux and fuss, then handed me a stick and suggested I try it.

If you've tried soldering horns or other sheets of copper, you've probably found what I have: that lots of flux is needed, the copper oxidizes easily so solder won't stick, the joint should be a perfect fit, and the solder wants to run everywhere except in the joint.

The shiny stick of metal was marked ENGELHARD SILVALOY 15. It solders copper together with no flux, fills gaps, and makes joints stronger than the copper. I've made and tested a half-dozen horns for 10 GHz and 5760 with, and also repaired my 10 MHz WWV dipole after a branch fell on it.

I called Engelhard for more information, and got a catalog. The Silvaloy 15 is 15% Silver, 80% Copper, and the rest Phosphorous; no Cadmium or Lead. Silver and copper are good materials for microwaves. The phosphorous probably reduces conductivity, but not as much as alternatives, and horns are low-Q devices so conductivity isn't critical -- plated plastic horns work fine.

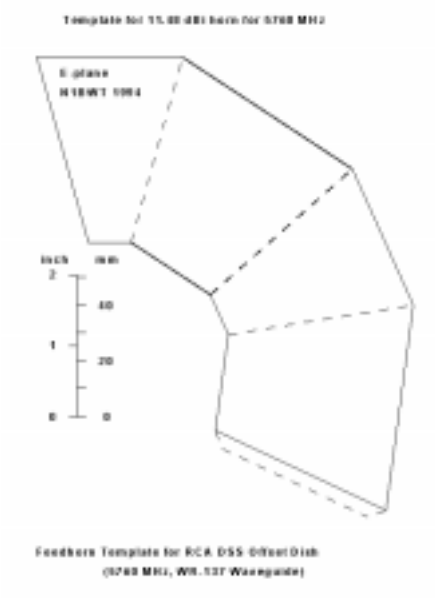
The downside of Silvaloy 15 is higher soldering temperature (Engelhard insists that you call it brazing at the higher temperature). The stuff starts to flow at 1300 degrees F, and is liquid at 1475 F. I've done this with a propane torch but it took a while to get hot. Sears has a nice MAPP gas torch which is much hotter, with a fine tip for the copper seams and a big tip for the waveguide joint. The hotter torch gets the joint up to temperature quickly.

Technique is straightforward: as you heat the joint, the copper changes colors and finally looks very clean -- now the temperature is hot enough. Touch the tip of the Silvaloy stick to the joint and it should flow along the joint and fill it up. Like solder, it only takes a little. When the joint is complete, let it cool until the joint hardens. As it cools, the copper will turn black and ugly. Before it cools completely, I immerse it in water and attack the black stuff with a wire brush -- it comes right off at this point. After it cools, the joint is hard and can be touched up with a file.

For materials other than copper, Engelhard says you need flux, but I haven't found it necessary with brass waveguide.

I bought a pound of Silvaloy 15 at a welding supply shop. Like all silver materials, it is sold by weight, so I have a supply for several lifetimes. For those interested in trying it out, some sticks will be available at the next N.E.W.S. meeting for my cost.

As an example, here's a template for a 5760 MHz horn designed to feed an DSS offset dish:



Feedhorn Template for RCA DSS Offset Dish
(5760 MHz, WR-137 Waveguide)

MY DIARY FOR THE KB1BWB MULTIOP EFFORT #1
BY: FRED STEFANIK N1DPM

Late April... Frank, NC1I, Ron, WZ1V, and myself took a ride to check out this location in Roxbury,CT. that Frank had stumbled across on the way to a job. I'm not sure excactly how he could have done this unless he was really lost and as everyone knows that real men don't stop and ask for directions when they're lost, especially when they're on the clock. Anyway Frank found this airstrip at the top of a 1000 foot hill in SouthWest Connecticut. He thought it might be a good spot to try so Ron and I went to check it out with him on a Sunday afternoon. With no leaves on any of the surrounding trees the view to the west and east was really nice. We then proceeded to try to find out who the owner was and had no luck. Ron persued this and got permission to operate in the June contest.

Early May... Being the typical packrat ham that I am, and Stan, KA1ZE having to "clean out" the backyard, John, N1MUW helped me and Stan out by moving the KA1ZE aluminum collection to my QTH. My back yard isn't as big as Stan's so it really looked round and silver! Anyway, I started to repair and complete a set of antennas for 6, 2, and 222 for the effort.

May 24th... The meeting showed that the effort was a go and I said that I would supply the antennas and supports for the effort. Over the next week Frank and I got a hold of all of Stan and My field day stuff of years past, 40' large diameter pipes that we used for supports for the HF yagis. All of this stuff was loaded on a trailer, so John gave us a hand and towed them back to my QTH. We only had one incident on the way in that as John proceeded to pull into the driveway across the street from my house in order to be able to back up straight into my driveway. As he pulled in, the back end of the pipes on the trailer whipped around and cleaned off both of my neighbors mailboxes at ground level!! Luckily none of the aluminum was damaged. Well 2 mailboxes and a couple of weeks later I had 5 rotating supports ranging from 24 to 45 feet tall, a set of antennas for the bottom 3 bands, and all of the required feedlines

ready to go and re-loaded on the trailer that John repaired (minor repair...it wouldn't stay hitched to the tow vehicle).

June 14th... Off to the site. Install all of the antennas and supports (the stuff actually fit together and worked) and KB1BWB was on the air! What a call!!! Ugh! I'll be glad when we are able to use W1RJA! Anyway, about 3:30 or so I went to step out of the cube van Ron had rented that had 6, 222, and 432 in it to help Stan at 2 meters and the microwaves when I slipped off the rear bumper and aimed my back directly at Dave, N1SAG's lawn chair. Well the aluminum chair didn't stand a chance against my 220LB frame. It got flattened! It did put up quite a fight and as I write this I'm still feeling the effects. The weekend was a great success with a score of 256K for a relaxed effort that started late, got a full good nights sleep, and was packed up and on the road by 8:30PM Sunday night.

Would I do it again....YOU BET!! Where are we going next year??

OK, I ADMIT IT. I'M A WEAK SIGNAL JUNKIE. BY KEN N4UK

I'm addicted to it. I know I'm not the only one with this addiction. Gimme a DB and I'm happy. Take one away and a nervous sweat breaks out. How did this all begin? I'm going to tell you. I'm also going to let you know about the obvious and the not so obvious things you can do to improve your weak signal receive capabilities. Sit back, grab a cold one, light one up and read on.

A lesson we must all learn...
My obsession with trying to obtain the best weak signal receive performance all began a few years ago during the September 1992 VHF QSO Party. I was operating right smack in the middle of the high power corridor in Eastern FM19 near Lancaster, Pennsylvania. It was during this effort that I learned first hand about phase noise and the nightmare it can
put you through. My receiver's noise floor increased 2-3 S units anytime any of the high powered locals transmitted many KCs away. The pain was excruciating! I have been at it ever since...

On to Dixie Land...
Living in a townhouse in Maryland did not give me much of an opportunity to experiment on the VHF bands but a job transfer to South Carolina was a blessing in disguise. Now I had the space and quiet to see how many DB I could squeeze out of my VHF/UHF receivers! The quest had begun.

The obvious things you should look for and do...
I know many of you are aware of the essentials you need to do to minimize losses on your receive systems but I'll briefly talk about them for the benefit of the newcomers to weak signal VHFing and there may be something even the experienced operators may have overlooked.

Be all that you can be...
1- Get an excellent transverter and HF rig combination. A great transverter is only great if the I.F. rig is also great. Using a phase noisey I.F. rig without good QRM fighting features defeats the whole purpose of going to a transverter. Likewise, using a crummy transverter with an FT1000MP doesn't make a whole lot of sense either. A high dynamic range and 3rd order intercept point are other features to look for in an I.F. rig and transverter. A noise blanker that works is essential! All the great features of your transverter and I.F. rig are null and void if noise keeps you from hearing weak signals.

2- Use the best feedline you can afford. Use half inch or better for 144, 222, and 432 use 7/8th hardline or better for 432 and above. A half db loss or more with other types of coax is unacceptable on the weak signal bands!

3- Make sure the connectors on your hardline are correctly installed. Improperly installed connectors add losses and could eventually lead to total receive system failure or, worse yet, equipment damage. If the N connector body (not PL259!) spins on the coax it has NOT been properly installed. If the center pin sticks out beyond the collar it has NOT been properly installed. If the center pin is set too low in the body it has NOT been properly installed. You can improve your receive capabilities anywhere from tenths of a db to a DB or more when going from an improperly installed connector to a properly installed one.

4- Get the biggest antenna(s) with the most gain and best pattern you can put up and put it as high as you can get it. The two best reasons to do this are increased gain on receive and the ability to null out qrm, noise, etc. from unintended directions.

5- Use a low noise figure receive preamp on 2m and above and most especially on 432 and above.

6- Find the sources of nighborhood noise and do whatever you can to get rid of it. Pester the power company, take your neighbor to lunch (or dinner if she's really good looking!), kiss whatever ass you need to kiss to get rid of that noisey power line, doorbell transformer, electric fence charger, etc.

Just because the noise comes from a direction that you hardly ever turn the antenna towards doesn't mean that you aren't getting noise in your receiver when you're beaming elsewhere. The tiniest amount of noise adds to your receive losses!

7- Use the best coax for jumpers and make sure the connectors are properly installed.

And now the not so obvious...
1- Buy yourself an RMS voltmeter. My HP 3400A has been an enormous help in discovering what makes my receiver quieter and what makes it noisier. I have seen them for sale fairly cheap at hamfests. Plug them into your headphone jack, keep a reference level and work your way from there. If your I.F. rig has a constant receive audio low level output then you're even better off yet!

2- Set your transverter I.F. Rx level gain correctly. Most of my levels are set so that there is a barely perceptible increase in noise when I turn on the transverter. IGNORE your I.F. rig's S meter!!! The S meter circuitry is not where it is supposed to be in the RF chain when you use the HF rig as an I.F. rig. An S meter reading is worthless when your transverter's Rx I.F. level is properly set for maximum signal to noise. You are hurting your receive capabilities when you adjust the I.F. gain for maximum s meter movement. Too bad that transverters don't come with S meter circuitry and a real Signal level meter. I know; old habits are hard to break. Work at it! Properly setting my 2m I.F. Rx levels improved my S/N ratio by a full db.

3- Weak signal receive equipment and data equipment are like oil and vinegar. They just don't mix! Most computers and other equipment using digital circuitry emanate noise. Seperate your receive system coax cables, equipment, power cables, power sources, etc. from your

computer, monitor, serial cables, packet TNC etc. My noise floor decreased a full db on 222 and 2m by rerouting the computer and associated cables further away from the coaxes and preamps. It was barely perceptible to my ears and I never even noticed it but the AC voltmeter tells the truth and nothing but the truth. If worse comes to worse turn off all digital devices while you are chasing weak signals.

4- Periodically monitor the reference level on your A/C voltmeter. An increase in noise can mean that the new serial cable you routed in the shack is poorly shielded or that a power pole down the street has started to act up. You can now act on it before that 1500 mile meteor scatter schedule time arrives. My reference level on my 2m receiver is -10dbm. I use the constant level output on the Icom IC740; this way I don't have to worry about adjusting the volume control to the exact same setting each time. The noise floor varies from a wintertime high of -12dbm to a summertime, high humidity day, -20dbm, an 8db swing! This is a great way to know how good your weak signal receive opportunities are on any given day.

5- Determine if the noises on the bands are in band or due to intermod from out of band, high power sources.(TV, FM broadcast stations, etc.) Get the appropriate filters to take care of the problem. Remember that the DB insertion loss of the filter can be nullified by the DB (or better) decrease in your noise floor when the intermod products are removed from the weak signal band. The best ham products on the market to remove the crud are notch filters from PAR Electronics and the band pass filters being sold by DCI in Canada.

6- Get rid of those cheap power cubes! When the transformer inside of them gets hot they get noisey. Do yourself a favor and use a good heavy duty power supply for all your 12v accesories. If you absolutely have to use a power cube for, let's say, 9VDC then be extremely rating conservative! If you need 9VDC at 20ma then use a power cube rated at 9VDC at 200ma or better. The combined noise from 5 hot power cubes can easily add a db of noise or more and, worse yet, you'll think you have line noise somewhere in the neighborhood when the problem is right under your nose.

7- Keep cooling fans away from audio circuits. They have a bad habit of inducing noise into your receive audio circuits. Noise is noise no matter where it comes from!

Either to the poor house or the nut house...
My station is still a work in progress. I'm constantly trying to make the receive systems better. Whenever a new neighborhood noise becomes evident I sometimes consider throwing in the towel but wind up fighting back with full force. Nothing is worse than taking a step forward and then being kicked two steps back through no fault of your own. It's become an obsession I tell you. I spent last weekend playing with preamps and listening for weak signals instead of contesting. The most exciting thing that happened all weekend was hearing a weak cw signal from K3YTL in FN11 CQing on 222 Mhz. I'm one step closer to the worst kind of lower signal-to-noise ratio fanatic. I hear that some of those guys have wound up in permanent residence at the local funny farm! I'll eventually wind up sitting next to those guys at a hamfest reminiscing about "the good old days" when you could hear a pin drop on any of the bands. Yes, someday I'll eventually become a full blown EMEer...

73 Ken, N4UK
EM84xp South Carolina

MAY 1997 SECRETARY'S REPORT
MARK CASEY, N1LZC

NEWS group meetings continue to be a high point in area weak signal operator's itineraries as evidenced by the steady larg attendance and the 45 members at the May meeting. President Ron Klimas, WZ1V kicked off the proceedings at 1:30 with the presentation of remaining certificates to members who participated in the Jan. VHF Contest.

The beacon project is coming along, despite the damage to Ron's mailbox when the UPS driver hung the heavy transmitter on the mailbox. The beacon should be on the air this Summer.

NC1I found an excellent contest site in Roxbury, CT at a private airport about 960' MSL and clear in most directions. The NEWS froup will be operating it's first ever club contest this June VHF Sweepstakes and will use the current club call of KB1BWB. All were invited to attend, operate and help with equipment and putting up and tearing down the station.

Dick Stevens, W1QWJ, from New Hampshire was our guest speaker. Dick has built and dwsigned high power amplifiers for many years. He brought several of his amps, gave a talk on his new amplifiers and took many questions from the floor.

Stan Hilinski, KA1ZE, the VHF Conference chairman was next on the agenda. Stan asked for a consensus among those present on several subjects relating to the set-up of this year's confernce. There will be a lab room, open all during the confernce on Saturday for measurements and band meetings instead of the concurrent formal band sessions. Stan is asking for volunteers to operate the lab equipment for various parts of the day and also for volunteers who have expertise in specialized construction areas who would be willing to be on hand at times during the conference. It was also suggested that we have one large band session.

Art Needham, W1TDS suggested attendees bring logs, in order that we could have a comparison of times and conditions to better determine propagation.

For this year's VHF Conference, Fred, N1DPM is in charge of prizes, Rae, K1LXD for registration, Mark, N1LZC fro Sunday's Swap N Sell, Dale AF1T will do the awards and we still need a proceedings editor - see Stan if interested!

It was also suggested that members could donate prizes for the Confernce. The room rate is expected to be about $55. There is plenty of room for contributions to the procedings.

We had a break at about 3:30 and when we came back at about 4:00 PM, Ron started organizing our club effort for the June VHF Contest. Seven members discussed the effort and hoped for more to join.

Our next meeting is Sat. July 12, 1997 at the Harley Hotel, Rt. 5, Enfield, CT, just off I-91 Exit 49. 11 AM for the board meeting, 1 PM for the general meeting. This is our annual microwave operation meeting. Bring your dishes and SHF gear. We will be in the rear parking lot, weather permitting. Everyone is welcome!

73, Respectfully submited, Mark Casey, N1LZC

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NEXT N.E.W.S. GROUP MEETING JULY 12TH AT THE HARLEY HOTEL
MICROWAVE/HOMEBREWERS SHOW AND TELL GATHERING
Paul Wade N1BWT will perform 10 GHz Sun Noise Measurements, weather permitting.

BOARD MEETING - From 11 AM to noon - open to all.
LUNCH BUFFET - At noon in the hotel restaurant.
MEETING - From 1 PM to 4 PM.

Harley Hotel of Enfield, CT (FN31qx) (15 miles north of Hartford, I-91 to exit 49, if Southbound left off exit - 1st right / if Northbound right off exit - 1st right).

North East Weak Signal Group

c/o KD1DU
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