



N.E.W.S. LETTER



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President: WA1MBA, Tom Williams
V P: Stan Laine, WA1ECF

CURRENT OFFICERS

Secretary: N1GJ George Jones
Treasurer: N1DPM Fred Stefanik

NEXT MEETING

SATURDAY, NOV. 15TH, 2003, AT THE RADISSON HOTEL IN ENFIELD
TOM, WA1MBA, WILL GIVE A TALK ON LIGHTNING PROTECTION
THERE WILL BE A DUCT TAPE AUCTION!

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DON'T FORGET

THE NORTH EAST WEAK SIGNAL GROUP
2 METER VHF AND ABOVE NET
EVERY THURSDAY NIGHT AT 8:30 p.m. LOCAL 144.250
W1COT, WZ1V, K1UHF OR K1PXE NET CONTROL

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://www.newsvhf.com>

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PREZ SEZ **DE WA1MBA**

Hope you all had a good Autumn so far. The rain has been greater than normal for these last couple of months. We had a great Eastern VHF conference the August, lots of interesting talks and conversations and a fun swapfest. Microwave update was in Seattle in late September this year. On the downside, there was not as much east coast representation as I had hoped for in Seattle. On the upside, we had really great weather and plenty (if not too many) lattés. Our inaugural Worked All Bands certificate was presented to Brian Justin WA1ZMS at the Eastern VHF conference, and the plaque was awarded to him at the Microwave Update conference. (A big thanks to our VP, Stan WA1ECF for creating the award certificate, and board member Stan KA1ZE for fabricating the brass plaque).

From what I have heard, there has been some good tropo this fall too. Too bad my equipment has been down since mid August. Yep, a lightning strike took out lots of it this time. Fortunately, most of my preamps were saved and only a few needed minor repair, but unfortunately, several of my transverters were clobbered and the big HF radio is a gonner too. It occurred to me that I could turn this misfortune into something positive by giving a talk on lightning protection, so that's the topic this coming meeting - November 15th.

Don't forget to bring a duct-tape auction item pair or more. Don't forget to bring some cash or checkbook too! These auctions are a lot of fun. The concept is this: find something nice that would likely fetch a reasonable bid and attach it (duct-tape it, masking tape it, or just put it on top) to some boat anchor that you want to rid yourself of. The winner is obliged to take both items. One time, last year, the winner of one of my items wanted the boat anchor, not the "good" item! You never know what treasures you have.

By the way, during this meeting we will be firming up dates for our 2004 meetings. See you there. If your membership is about to or has already expired, bring your checkbook too.

73 for now.

SECRETARY'S REPORT OF THE NEWS **MEETING OF 10 JULY 2003**

Ron, WZ1V, again was our chef for the Picnic and he did a great job cooking the hotdogs, burgers, sausages and anything else people brought along. There was a variety of soft drinks, chips, salads, etc. for everyone to enjoy also. After everyone got enough to eat, drink and otherwise, the main event of the meeting began-MDS and relative power output measurements of all the battery-powered 10 GHZ and 24 GHZ rigs that members brought for the event.

The MDS test began with Paul, W1GHZ, and John, K1AE, setting up the signal source and attenuators out across the field from the shelter where all of the rigs were waiting. A high level signal was put out so everyone could find it readily and then the signal was reduced in steps until no one could still copy it. The level shown is the last copiable and was roughly what was being sent by the test transmitter.

10 GHz

Signal Level	Operator/Rig
-60 dBm	Everyone Copies
-80 mdBm	N2YYU
-90 dBm	K2CBA
-93 dBm	K1UHF
-98 dBm	KJ1K
-101 dBm	W1GHZ, K2AEP, KB1VC
-102 dBm	WA1MBA(W1FKF), N1JEZ
-105 dBm	N1LZK, KA1OJ, W1AIM
-106 dBm	NS1O
-107 dBm	AF1T
-109 dBm	W1FKF

24 GHz

Signal Level	Operator/Rig
-70 dBm	Everyone Copies
-81 dBm	W1GHZ
-82 dBm	K2CBA
-98 dBm	KA1OJ, N1JEZ
-99 dBm	W1RIL, W1FKF

The next test was a reverse MDS test, where the signal was moved in frequency and then moved up in power level until everyone was able to find it again. It was done only for 10 GHz, so there are no 24 GHz results available for this test. The signal was moved down in frequency by approximately 10 kHz in this case.

10 GHz

Signal Level	Operator/Rig
-106 dBm	W1FKF
-105 dBm	AF1T
-104 dBm	KA1OJ
-100 dBm	NS1O
-99 dBm	KB1VC, N1JEZ, W1GHZ, WA1MBA (W1FKF)
-98 dBm	N1LZK
-97 dBm	JK1K
-96 dBm	W1RIL
-95 dBm	N1EKV
-83 dBm	K2AEP, K1MAP'

The final set of tests was relative power output. A loud signal (in this case, W1FKF at both 10 GHz and 24 GHz) was set as the reference and then, one by one, the other transmit signal amplitudes were measured relative to the reference.

INVITATION TO THE 2004 CENTRAL STATES VHF SOCIETY CONVENTION

Greetings to all VHF/UHF'ers and EME'ers:

On behalf of the Ontario VHF Association, VE3VHF, and the Toronto VHF Society, VE3ONT, I would like to invite you and your family to attend the 38th annual Central States VHF Society conference being held July 22-25, 2004 at the Delta Meadowvale Resort and Conference Center in Mississauga, Ontario, Canada.

We are very honored to be hosting this year's conference, only the second time it has been held outside of the USA, and are looking forward to bringing you a top-notch technical conference, and a memorable experience for your families.

The Delta Meadowvale is one of Mississauga's premier conference centers and is located just south of Ontario's main east-west highway, the Macdonald-Cartier Freeway (Hwy 401). Those traveling in from Detroit, Buffalo, or eastern Lake Ontario will easily spot the hotel at Mississauga's Erin Mills Parkway/Mississauga Rd. exit. A shuttle service is available for about \$13 Cdn from the Pearson airport, only 15 minutes away. Travel time from Detroit is about 3 hours, and from Buffalo is about 70 minutes.

While there will be a mailing with more information issued to CSVHFS members later on, you can find out more about the Delta Meadowvale now at: www.deltameadowvale.com

We have reserved a block of rooms at Cdn \$115/night (currently about \$87US), a rate which can be applied three days before and after the conference dates of July 22-23-24, 2004 should you wish to extend your visit to the area. Please support the CSVHFS by booking your room under this banner - just quote the CSVHFS when booking your reservation.

You can reach the Delta Meadowvale directly at 1-800-422-8238 Monday - Friday, 8 a.m. to 6 p.m. Calls outside that time frame will go to Delta's national reservation center but they also have the details and should be able to book you just as easily.

Our family program is not yet finalized but we are planning an excursion to the Niagara Falls area on Friday July 23rd and to the Toronto core on Saturday July 24th. More details will be available at a later date.

More information on the 2004 CSVHFS conference, including a registration form, will be available shortly at: www.csvhfs.org and at www.ovhfa.com

We would welcome anyone interested in presenting a technical paper and a >formal call for papers will be issued shortly. For further information please contact Bob Morton, VE3BFM, at ve3bfm@csvhfs.org

We look forward to seeing you!

73, Peter Shilton, VE3AX
2004 CSVHFS Conference Chmn. ve3ax@csvhfs.org

10 GHz

Relative Level	Operator/Station
-1 dB	N1LZK
-2 dB	WA1MBA (W1FKF)
-3 dB	W1AIM
-4 dB	W1GHZ
-6 dB	KA1OJ
-6.5 dB	AF1T
-9 dB	N1JEZ
-11.5 dB	N1EKV
-12 dB	NS1O
-13 dB	W1MKY
-15 dB	W1RIL
-16 dB	KB1VC
-17 dB	K2AEP
-28 dB	K2CBA
-30 dB	K1MAP (horn)

24 GHz

Operator/Station	Relative Level	Xmt Power
+4 dB	N1JEZ	2 Watts
0 dB	W1FKF	1 Watt
-3 dB	KA1OJ	600 mW
-12 dB	W1RIL	90 mW
-25 dB	K2CBA	100 mW

The formal meeting of the NEWS Group was called to order by President Tom Williams, WA1MBA, at 4:41 PM. Under old business, the dues increase voted on at the last meeting was reviewed. We will start paying \$15.00 from 2004 on. See Fred, N1DPM, NEWS Treasurer, if you have not paid your dues for this year. Thanks to Ron, WZ1V for all his work on the grill at this year's picnic, to Paul, W1GHZ, and John, K1AE, who ran the 10 GHz and 24 GHz tests and to all who helped with facilities, food, etc.

Under new business, Bruce, N2LIV, NEVHF Conference Chairman, reviewed the coming Conference. He also passed out flyers covering the Conference to all who were present. Bruce also announced that he was looking for a Band Session Moderator for the 903/1296 Band Session. The 2004 Conference will be number 30 in the long line of Conferences that we have had here in the Northeast. The Committee is planning to move the Conference date back to May (on the date planned for the normal May meeting). We are negotiating with the Radisson Hotel for favorable rates. The Committee is also looking into new ideas for reducing costs, such as auctioning off some of the prizes at the Conference dinner. Any ideas, see Bruce, N2LIV.

Burt, N2YYU, announced that he will have a new 10 GHz beacon operating shortly. It will be located at K2CBA's place in eastern New York. The frequency will be 30 kHz below the current beacon. It should be in operation by time you read this NEWS letter.

The meeting was adjourned at 4:49 PM.

SEPT 2003 VHF QSO PARTY, NEWS GROUP RUMORED SCORES

CALL	GRID	* CLS.	POINTS	6M	2M	222	432	903	1.2G	2.3G	3.4G	5.7G	10G	24G	47G	75G	120G	145G	240G	LAS
W2SZ	FN32	N U	1858496	640/66	601/63	243/49	361/52	117/38	132/36	105/36	89/31	68/23	64/11	10/3	1/1	-	-	-	-	-
K1WHS	FN43	Y U	952010	420/73	437/56	128/40	197/43	73/31	77/31	47/27	39/24	32/22	33/21	3/2	-	-	-	-	-	-
W2FU	FN13	N U	653250	310/71	382/67	144/47	187/45	40/25	56/28	25/16	20/14	11/10	10/6	6/4	1/1	-	-	-	-	4/1
W1XM	FN42	N U	65043	108/17	148/26	49/15	69/18	15/6	28/11	9/6	-	-	-	-	-	-	-	-	-	-
W0EEA	DM79	N U	18830	26/10	65/23	12/6	47/18	1/1	7/5	4/2	1/1	-	2/2	2/2	-	-	-	-	-	-
N6ZE	DM04	N U	5504	31/6	53/13	13/4	25/6	-	4/3	-	-	-	-	-	-	-	-	-	-	-
K1TR	FN44	N S	211266	175/39	138/35	77/28	107/29	33/17	37/18	21/13	14/11	3/3	6/5	-	-	-	-	-	-	-
K2DRH	EN41	N S	186504	127/46	166/56	61/38	89/38	31/22	44/28	-	-	-	-	-	-	-	-	-	-	-
N1DPM	FN32	Y S	123424	86/26	137/30	60/22	79/25	24/13	37/14	14/10	11/8	-	7/4	-	-	-	-	-	-	-
AF1T	FN43	Y S	76505	80/20	109/23	62/17	61/16	22/8	26/7	14/7	8/4	4/2	7/2	-	-	-	-	-	-	1/1
K5MA	FN41	N S	76049	159/29	190/36	69/22	93/26	-	-	-	-	-	-	-	-	-	-	-	-	-
KT8O	EN34	N S	54692	55/18	84/26	41/20	59/23	11/6	36/19	-	-	-	1/1	-	-	-	-	-	-	-
W1PM	FN41	Y S	52221	89/26	97/25	52/18	59/18	12/7	21/9	-	-	-	-	-	-	-	-	-	-	-
WB2SIH	FN31	N S	48694	64/19	129/25	55/19	68/20	12/8	9/6	-	-	-	-	-	-	-	-	-	-	-
N2FKF	FN30	N S	43450	81/17	169/23	61/19	89/20	-	-	-	-	-	-	-	-	-	-	-	-	-
WA3EOQ	FM09	N S	31916	27/13	68/30	37/23	45/24	-	19/11	-	-	-	-	-	-	-	-	-	-	-
KE8RO	EN81	N S	29014	66/27	134/35	-	63/27	-	-	-	-	-	-	-	-	-	-	-	-	-
K8MR	EN91	N S	28254	66/30	79/31	27/19	39/22	-	-	-	-	-	-	-	-	-	-	-	-	-
W8PAT	EN81	N S	24400	33/19	51/30	32/23	36/21	-	8/7	-	-	-	-	-	-	-	-	-	-	-
VE3KZ	FN03	N S	23004	108/31	90/31	-	43/19	-	-	-	-	-	-	-	-	-	-	-	-	-
WA7JTM	DM34	N S	20079	66/19	70/19	13/10	45/16	-	13/5	-	-	-	-	-	-	-	-	-	-	-
KC6ZWT	CM98	N S	17100	32/10	83/21	34/13	51/16	-	-	-	-	-	-	-	-	-	-	-	-	-
KA1EKR	FN42	Y S	13923	38/16	47/18	31/15	37/14	-	-	-	-	-	-	-	-	-	-	-	-	-
K0VXM	EL98	N S	11221	18/6	35/14	14/6	22/9	6/2	10/5	7/3	2/1	2/1	2/1	1/1	-	-	-	-	-	-
K8WVW	EM75	N S	9966	59/25	36/19	12/10	16/12	-	-	-	-	-	-	-	-	-	-	-	-	-
W1JR	FN42	Y S	8650	28/11	32/14	22/10	24/11	-	7/4	-	-	-	-	-	-	-	-	-	-	-
K9DQ	EN62	N S	7824	26/9	69/23	9/4	25/12	-	-	-	-	-	-	-	-	-	-	-	-	-
NOLL	EM09	N S	7076	17/13	33/23	12/9	15/12	-	4/4	-	-	-	-	-	-	-	-	-	-	-
K1WTK	FN42	N S	4958	24/8	39/13	20/8	14/7	-	1/1	-	-	-	-	-	-	-	-	-	-	-
AG2A	FN30	N S	2300	-	100/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N7IR	DM43	N S	2175	20/6	15/7	2/2	15/6	-	6/4	-	-	-	-	-	-	-	-	-	-	-
AF4OD	EM72	N S	1150	15/8	33/14	-	1/1	-	-	-	-	-	-	-	-	-	-	-	-	-
K1VU	FN42	N S	840	17/8	13/7	-	6/5	-	-	-	-	-	-	-	-	-	-	-	-	-
W2EV	FN03	N S	468	6/4	20/14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VP9N0JK	FM72	N S	49	7/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N6NB	ROVER	N R	378756	87/18	138/21	82/18	122/20	68/16	73/16	62/16	61/16	57/16	57/16	-	-	-	-	-	-	-
N6MU	ROVER	N R	307800	69/16	74/18	66/16	73/18	60/16	63/16	58/16	58/16	57/16	57/16	-	-	-	-	-	-	-
W3IY	ROVER	N R	307683	124/20	243/27	140/24	163/24	58/9	96/14	52/8	15/4	31/5	45/6	1/1	-	-	-	-	-	-
N2MH	ROVER	N R	55755	73/21	154/29	60/19	74/21	-	12/5	-	-	-	-	-	-	-	-	-	-	-
WA2IID	ROVER	N R	32472	24/7	61/17	38/10	42/10	15/5	15/6	9/3	7/3	5/1	8/4	-	-	-	-	-	-	-
K2QO	ROVER	N R	15372	43/16	62/22	23/8	27/8	-	9/2	-	-	-	3/3	-	-	-	-	-	-	-
KJ1K	ROVER	Y R	12996	31/14	33/12	20/7	20/8	4/2	4/2	5/2	4/1	3/1	3/1	-	-	-	-	-	-	-
KC2HIZ	ROVER	N R	7392	18/6	27/7	-	20/5	6/1	8/2	6/1	6/1	6/1	6/1	2/1	-	-	-	-	-	-
N2GKM	ROVER	N R	3876	20/8	13/5	11/4	10/4	2/1	3/1	2/1	1/1	1/1	1/1	1/1	-	-	-	-	-	-
KT1VT	ROVER	N R	1378	10/6	19/10	-	10/6	-	-	-	-	-	1/1	-	-	-	-	-	-	-
W9GKA	EM58	N Q	5192	22/10	34/15	15/10	16/9	-	-	-	-	-	-	-	-	-	-	-	-	-
W3SO	FN00	N L	376425	412/64	431/66	149/54	217/55	-	-	-	-	-	-	-	-	-	-	-	-	-
K9NS	EN52	N L	313500	354/72	395/67	107/43	206/46	-	-	-	-	-	-	-	-	-	-	-	-	-
W4IY	FM08	N L	211688	343/62	397/59	78/33	115/34	-	-	-	-	-	-	-	-	-	-	-	-	-
K8CC	EN82	N L	140686	224/55	229/54	66/34	94/39	-	-	-	-	-	-	-	-	-	-	-	-	-
WV8E	FM09	N L	127942	279/44	282/45	61/25	109/28	-	-	-	-	-	-	-	-	-	-	-	-	-
W3OR	FM28	N L	117585	218/35	259/39	76/27	121/34	-	-	-	-	-	-	-	-	-	-	-	-	-
W3DOG	FM28	N L	92288	214/46	255/42	50/21	76/19	-	-	-	-	-	-	-	-	-	-	-	-	-
N3JFM	FN20	N L	91568	213/30	271/35	69/28	77/25	-	-	-	-	-	-	-	-	-	-	-	-	-
KV1J	FN44	N L	43520	170/31	132/23	50/17	55/14	-	-	-	-	-	-	-	-	-	-	-	-	-
KB1DFB	FN41	N L	32526	89/18	142/28	41/16	52/16	-	-	-	-	-	-	-	-	-	-	-	-	-
N1EG	FN31	N L	10192	57/17	69/20	-	35/15	-	-	-	-	-	-	-	-	-	-	-	-	-
W1MV	FN42	N L	5760	-	54/14	22/10	31/12	-	-	-	-	-	-	-	-	-	-	-	-	-
KV1J_CK	FN44	N L	660	-	-	-	-	6/4	16/6	-	-	-	-	-	-	-	-	-	-	-
K3EAR	FM19	N H	564026	290/65	366/65	117/46	159/50	37/20	49/22	23/12	17/9	16/9	19/10	6/3	3/2	-	-	-	-	-
K1TEO	FN31	Y H	535200	239/51	369/53	120/45	161/47	43/24	63/27	35/23	18/12	11/11	10/7	-	-	-	-	-	-	-
K1RZ	FM19	N H	424410	215/43	279/53	110/39	161/42	52/25	71/27	34/18	-	9/3	17/8	-	-	-	-	-	-	-
WA2FGK	FN21	N H	256360	165/43	205/42	85/35	113/38	36/19	46/20	23/13	14/11	-	-	-	-	-	-	-	-	-
K8TQK	EM89	N H	168632	350/21	112/52	55/39	60/41	15/14	17/14	7/7	4/4	2/2	4/3	-	-	-	-	-	-	-
K1GX	FN31	Y H	156672	97/22	204/32	74/21	98/23	30/12	43/15	16/11	9/7	4/4	11/6	-	-	-	-	-	-	-
WB9Z	EN60	N H	112969	129/38	173/52	55/31	86/35	-	23/17	-	-	-	-	-	-	-	-	-	-	-
W0GHZ	EN34	N H	108188	58/17	86/25	57/24	68/25	32/17	39/17	14/9	6/6	4/4	7/4	-	-	-	-	-	-	-
K1UHF	FN31	Y H	108129	113/25	235/35	71/25	86/26	-	33/14	2/1	-	-	11/7	-	-	-	-	-	-	-

K1JT	FN20	N	H	98277	180/35	191/31	76/24	102/25	-	24/8	-	-	-	-	-	-	-	-	-	-
K2UOP	FM09	N	H	80798	82/28	137/37	49/25	61/27	12/8	22/13	7/4	-	-	-	-	-	-	-	-	-
WZ1V	FN31	Y	H	61716	105/25	102/26	59/23	73/23	-	3/2	12/7	7/5	-	-	-	-	-	-	-	-
KE8FD	EM84	N	H	54229	73/29	113/42	41/20	58/22	3/3	10/10	1/1	-	-	-	-	-	-	-	-	-
AF6O	DM14	N	H	53010	98/26	138/23	47/16	73/19	7/4	19/6	-	1/1	-	-	-	-	-	-	-	-
KF6AJ	FN31	Y	H	38454	83/23	115/25	56/18	66/21	-	-	-	-	-	-	-	-	-	-	-	-
W1RZF	FN42	N	H	36693	72/17	151/28	50/17	65/19	-	-	-	-	-	-	-	-	-	-	-	-
W3EME	FM19	N	H	26220	-	437/60	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K5LLL	EM10	N	H	20382	35/15	71/23	16/11	29/16	3/3	7/5	5/3	3/3	-	-	-	-	-	-	-	-
W0ZQ	EN34	N	H	18602	16/7	35/14	23/13	25/14	14/10	15/8	7/5	-	-	-	-	-	-	-	-	-
KN4SM	FM16	N	H	18286	54/26	79/32	-	45/24	-	-	-	-	-	-	-	-	-	-	-	-
N2MCY	FN30	N	H	13098	41/17	71/22	1/1	33/13	-	14/6	-	-	-	-	-	-	-	-	-	-
N1MUW	FN32	Y	H	7844	42/16	28/13	17/10	16/10	2/2	2/2	-	-	-	-	-	-	-	-	-	-
NN5DX	DM80	N	H	3042	2/2	26/17	11/8	14/12	-	-	-	-	-	-	-	-	-	-	-	-
NL7CO	EM04	N	H	2278	-	67/34	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K5AM	DM54	N	H	912	11/7	15/11	1/1	5/5	-	-	-	-	-	-	-	-	-	-	-	-

CLASSES: U=UnlimitedMulti, L=LimitedMulti, H=SingleOp Highpower, S=SingleOp Lowpower, R=Rover, Q=QRPPortable

* Y= NEWS group member

PACKRATS VHF CONFERENCE

HIGHLIGHTS:

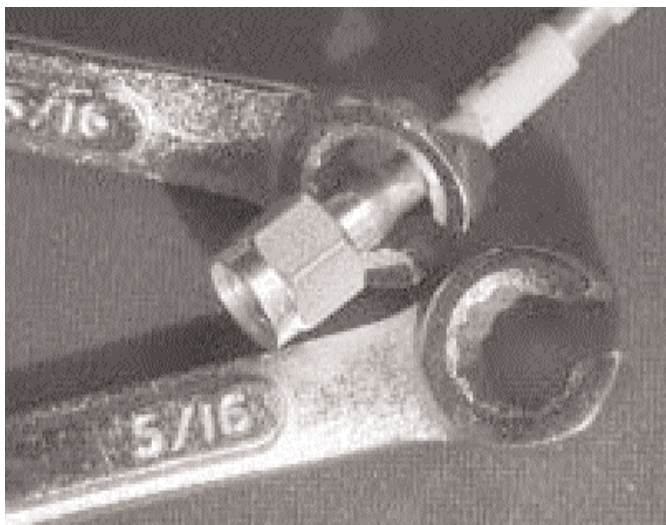
After missing the last few Pack Rats conferences, I managed to attend this years' 26th Annual Mid Atlantic States VHF Conference on October 11. This was at the Radisson in Trevoze, PA which is right off the PA Turnpike. I arrived late Friday night, so really appreciated them having decent free coffee all the next morning in the conference room. There were talks for everyone. A lot of talks that I didn't think I'd be crazy about provided many interesting tidbits of information. For example, though I've heard W3IY's rover talk before, some new details were gleaned, like a reasonable source for high output alternators, www.mralternator.com, and how to overcome battery voltage sag when your solid state PA draws 100A on transmit by using an AccuVolt DC-DC converter from www.jacobselectronics.com. Yes Martha you can get 13.80 V out of 9.5 to 12 V even at 100A! I'm not even vaguely interested in 1296 EME, but N2UO's skill at transforming common building and plumbing supplies into homebrew 10 foot dishes and near-QRO amplifiers entertained us all. See www.qsl.net/n2uo and you'll see what I mean. There were lots of hands on talks by AA2UK, N3FTI, W2PED, N1ND and K2UYH on a variety of topics. I'd have to say my favorite was listening to KB3XG seemingly make child's play at reverse engineering a surplus 2 GHz high power PA, then methodically re-design it to work at 2.3 GHz. I got lost less than halfway through plugging the device S Parameter data into MIMP and AppCAD, but it was fun to imagine I might have a prayer understanding this stuff! The auctions, prize drawings, dinner buffet and Sunday Fleamarket were all great. The PackRats are to be commended for putting on a well orchestrated event. Now if I could only figure out what to do with those 6,000 MAR-6 MMIC's I picked up. See www.ij.net/packrats/ on the web.

-73, Ron Klimas, WZ1V

HANDY HELPERS FOR SMA CONNECTORS PAUL WADE W1GHZ ©2003 W1GHZ@ARRL.NET

SMA connectors have excellent microwave performance, but they can be hard on the fingers. Today, you can buy a working microwave transverter, but making it into an operating system still requires some assembly, usually involving semi-rigid coax and tight spaces. The tool of choice for SMA connectors is a 5/16-inch wrench (spanner), but sometimes we can't locate one and are forced to use an adjustable wrench or even pliers – both of which do a better job of rounding off the nuts than tightening them.

SMA coax relays usually have very close spacing, so there is not even room for an ordinary open-end wrench. Smaller wrenches, called ignition wrenches, are a little smaller and can sometimes squeeze in a tight spot. Most wrenches are combination wrenches, with a box wrench on the far end – the box end works great, but won't go over the cable. I've seen large box wrenches with an opening at the end, but not one as small as 5/16".



So, why not make one? I bought some cheap wrenches and attacked them with a Dremel tool. Saw blades won't cut hardened steel, but a thin abrasive disk zips right through. Two cuts make a slot just wide enough to slip over UT-141 cable; soften the sharp corners and we are ready to go, just like the picture. Slip the slot over a cable, slide it on to the SMA connector and tighten. The box won't slip off as easily, and most box wrenches have 12 points, permitting work in smaller increments where there isn't much room to swing the wrench. If space is really tight, you could even shorten the wrench handle with the Dremel tool. If you can buy wrenches for less



than a buck (www.wttool.com), you can afford to customize them.

If you are doing a lot of connecting and disconnecting — measuring noise figure, for instance — using a wrench can be tedious, but the connector alone is too small for most fingers. The first time I went to use the TDR at my current job, I found that someone had attached a wing nut to the SMA connector, making it much quicker and easier to manipulate. I asked who had done it — one of the digital engineers, who knew nothing about precision connectors and torque wrenches, had just gone and done it!

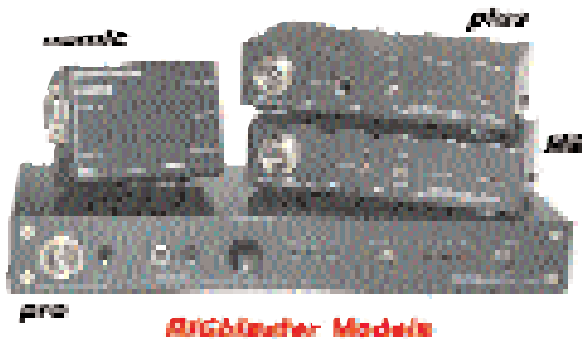
Clearly, this is an idea good enough to copy. I picked up a couple of 3/8-inch wing nuts at the hardware store and attacked them with a triangular file — brass is more expensive but easier to file. Cut three corners in a triangle using the file as a guide, then flip the file over and cut the other three. Eyeball and file to fit over an SMA connector, just like the picture. The wings can spin the connector on and off, and tighten enough for good measurements.

For a more permanent version, drill out the wing nut so it is just slightly smaller than the corners of the SMA connector, and then press it on to the connector.

These are a couple of handy tools that you can make in a few minutes that could save hours of frustration.

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NOTICE: NEXT MEETING!
SATURDAY, NOV. 15TH, 2003, AT THE RADISSON HOTEL IN ENFIELD
TOM WA1MBA, WILL GIVE A TALK ON LIGHTNING PROTECTION
THERE WILL BE A DUCT TAPE AUCTION!

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