



N.E.W.S. LETTER



The Publication of the North East Weak Signal Group

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ISSUE THREE

President: KB1VC Matt Reilly
V P: WA1HOG, Dennis Hennigan

CURRENT OFFICERS

Secretary: K1MAP Mark Casey
Treasurer: N1DPM Fred Stefanik

NEXT MEETING

THE NEXT MEETING IS ON SATURDAY MAY 22ND, 1:00 PM AT THE HARLEY INN
ALL ARE WELCOME TO THE DIRECTORS MEETING AT 11:00 AM

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N.E.W.S. GROUP NET EVERY THURSDAY

8:30 PM LOCAL 144.250

K1UHF NET CONTROL, WZ1V AND W1COT AS ALTERNATES
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>

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FROM THE VIRTUAL SHACK OF KB1VC

Well, the 2m, 220, and 432 sprints are over, the 6m sprint is ahead of us. The VHF/UHF/Microwave contests will be here before most of us can get that last transverter together.

Hamfest season has begun. By the time you read this, you'll be getting over the (check one SUNBURN __ COLD __ HANG-OVER __) that you got at Rochester along with the stuff that you just couldn't live without. Or maybe you've just returned from Dayton, mecca to hams and lovers of fine food.

Spring is in the air. That's when a young (or even an old) ham's fancy might turn to mountain-topping. Ah, the breezes. The vistas. The rocks. The fog. The crowds.

It never fails, you get set up on top of a mountain after untangling a ton of gear. Find out that you're missing a cable or two. Cobble up a cable or two from a twist-tie and a hunk of bootlace. Get the rigs warmed up. Get involved in an "almost two way" via the ESP band. Clamp on the headphones. And a kid with a dripping popsicle and a randy dog walks up and says "Hey you!" (kids never say "hey mister" anymore) "What are you doing?"

That's when some of us give the child an annoyed look, mutter something about cooking birds and small children with microwaves, and return to the almost-qso-in-progress.

I'm not sure that's the best way to represent the hobby. The kid with the drippy popsicle may be on the cusp of deciding between a hobby in computing (with all its inherent dangers and pitfalls -- obsessive behavior, excessive concentration on esoteric details, associating with a small segment of the population that actually embraces technology and speaks its own specialized jargon) and a hobby in radio (with all its inherent attractions - - focused goal oriented behavior, careful attention to "the little things", the camaraderie of a small but select group of savvy folks just like us). It doesn't take much to see that our grumpy response to the child's natural curiosity isn't very constructive.

For that matter, all of us have been approached by grownups who ask the same question. That grownup may well be some other ham's (say KZ1YY's) neighbor. We may not be helping KZ1YY in his effort to put up a tower by yelling at his neighbor to "get out of the way, don't you know this stuff could cook your eyeballs out?"

So, I think it's time the mountain-topping community got its PR act together. Clip the next page out and make a bunch of copies. It is a summary sheet describing what you are doing on the mountain top. You may want to tailor the sheet to your own operation. I've used a generic "mountain-topping" scenario here. When you get a question, you can refer some folks to the handout. Most won't read it.

That's where plan B comes in. Chances are that you didn't go

up the mountain on your own. Typically there are a few ops sharing one peak. In some of the contests (most notably the microwave contests) at least one operator is sitting around waiting at any given moment. Let's make use of these moments and do a little public relations work during the downtime. Be prepared with a little patter or short explanation. Don't get too involved. Talk about how you built the equipment, or found it at a flea market, or bought it by skimping on tuition and braces for the kids or by selling that 'extra' kidney. Talk about how, no we can't talk to Rangoon from here, but that hearing a signal from a guy in Philadelphia with this stuff is like watching a TV station from Dallas. (or something like that...)

In short, let's be friendly. We don't own the mountains. (Well, we don't own many of them...) And, as anybody who's been chased off a peak by a ranger can tell you, a little PR can go a long way.

Matt, KB1VC
NEWS President

See page 4 Frequently asked questions. K1UHF Ed.

LUBES FOR YOUR ROTOR

Mobil Oil manufactures a grease usually red in color and I mean RED this stuff will last on your skin for two-three days like it has die in it. It is used in all types of applications. It can withstand extreme temperatures and does not change it's viscosity. It is called Mobil Grease 24. Even better is a product called LOK-CEASE by Certified Laboratories, they were located in Kenda Park, NJ Mountain View,CA and Ft Worth Texas when I acquired the 1 pound plastic container. This compound which looks like aluminum paste can withstand temperatures in the following range. 1204C and -60 below. It does not harden and fuse to metals even in extreme cold. I put it on a thrust bearing and it lasted 9 years when I took the tower down the bearing was still nice a coated with it and it only had drawn some dirt and grime because the bearing did not have a cover on it. In addition when used with dissimilar metals it prevents corrosion and prevents them from sticking. Only one caution on the container. " Do not use with materials where it can contact fluorinated compounds such as Teflon or telmors of Teflon"

By the way you can use it on all nuts bolts, flanges and metal joining surfaces, pulleys cables, etc., to prevent them from locking up or galling.

>It has worked for me for over 20 years and the 1 pound container is still 7/8 full. It doesn't take much to do the job.

Regards,
Don W6PJJ

Taken from a "DeIce your rotor" thread on the VHF Reflector from internet, K1UHF Ed.

NEWS GROUP BOARD MEETING 3-13-99

President Matt Reilly opened the meeting at 11:32 AM.

Old Business:

From WA1MBA: WZ1V has obtained software for our newsletter.

From W1GHZ: Incorporation may cost as much as \$1000 for legal fees. We need to see if the benefits would justify this. Paul will check with the ARRL on this.

From WZ1V: No luck on obtaining the W1RJA license plate.

From W1TDS: We should present the Hotel with a plaque for their cooperation in providing us with a meeting & conference site.

From W1GHZ: Paul will donate a gunnplexer for mounting on the plaque.

From WA1MBA: Logo should be discussed at the general meeting.

New Business:

The Board voted to endorse the new rules for the Annual Cumulative Microwave Contest.

Times Microwave Engineer and Sales Rep., Al Kushner be our main speaker at today's general meeting.

The Board Meeting was adjourned at 12:02 for lunch.

Respectfully submitted
Mark Casey, Secretary

NEWS GROUP GENERAL MEETING 3-13-99

President, Matt Reilly, KB1VC, opened the meeting at 1:10 pm

Old Business:

Anyone who has a proposed logo must bring it to the May meeting for consideration. The logo will be voted upon at that time.

NEWS will coordinate the weak signal spectrum above 50 Mhz in the northeast US as outlined in our plan.

Please submit information and comments on the proposal for a ham bands in 72-76 Mhz to Mark Casey, K1MAP at map@map.com

From Bruce, N2LIV: The Eastern VHF Conference will be held Aug 27-28-29. Lectures and Band Sessions will run concurrently. The lab will start around 2:30PM Sat. Bruce needs donations of prizes and papers for the proceedings (Due June 1).

New Business:

The Timonium, MD Hamfest is a great place to find microwave building blocks. It is March 27-28.

MIT Fleas start April 18 and are held the third Sun of each month from April to Oct.

From Fred, N1DPM, Treasurer: We have approx \$2100 and 180

members.

CY9SS, St Paul Is will be activated on 2 meters from June 6-14 Please e-mail your scores for this years Cumulative Microwave Contest to Matt, KB1VC.

From Ron, WZ1V: NEWS will sponsor the 432 sprint. Send your entries to Ron

Since the duct tape auction was so well received, NEWS will have this again in the future.

We took a break at 2:05PM

Matt reconvened the meeting at 2:19PM.

Mr Alan Kushner, and Engineer and Sales Representative from Times Microwave gave a well received presentation on coaxial cable and connectors. Mr Kushner stayed on to answer many questions after his talk.

Thank-you, Mr Alan Kushener for making this NEWS meeting another great success.

36 Member and Guest were in attendance.

Respectfully submitted,
Mark Casey, K1MAP, Secretary

RESOURCES FOR METALBASHING W1GHZ 1/2/99

* Online

1. Introduction to Machine Tools (mpeg videos): <http://me.mit.edu/2.70/machine/outline.html> 2. Advice on buying a used lathe: <http://www.meramac.com/advice.html> 3. Auction advice (BEWARE!) <http://www.meramac.com/auction.html> 4. Newsgroups: <http://www.phoaks.com/phoaks2/newsgroups/rec/crafts/metalworking/>
* Books & Videos 5. How To Run A Lathe by Southbend (1942) Lindsay Publications, PO Box 538, Bradley, IL, 60915. 815-935-5353 <http://www.lindsaybks.com/prod/index.html> 6. Care & Operation of a Lathe Lindsay Publications 7. Basic Lathe Operation Video Lindsay Publications 8. Milling Machine Operation Video Lindsay Publications 9. Tabletop Machining by Joe Martin Sherline (see below) <http://www.sherline.com/~sherline/bookplug.htm> 10. Machinery's Handbook <http://www.industrialpress.com/handbook/index.html>

* Magazines 11. The Home Shop Machinist : <http://www.villagepress.com/homeshop/> * Suppliers 12. Sherline (small lathe and milling machine) <http://www.sherline.com/~sherline/index.html> 13. MSC, 151 Sunnyside Blvd, Plainview, NY, 11803. 800-645-7270 (BIG catalog) <http://www.mscdirect.com/> 14. ENCO, 800-873-3626 (imported machinery & tooling, reasonable quality) <http://www.use-enco.com/> 15. Grizzly, 2406 Reach Road, Williamsport, PA 17701. 800-523-4777 (imported machinery) <http://www.grizzlyimports.com/> 16. Harbor Freight, 3491 Mission Oaks Blvd., Camarillo, CA 93011. 800-423-2567 (cheap imported stuff) <http://www.harborfreight.com/> 17. Blue Ridge Machinery & Tools, Box 536, Hurricane, WV 25526-0536, 304-562-3538 (Unimat, tooling) <http://www.blueridgemachinery.com/index.htm> 18. Eastern Tool & Supply, 149 Grand St, New York, NY, 10013, 800-221-2679 (Sherline at discount) * Dealers 19. Meridian Machinery, 85 Allen Blvd. Farmingdale, NY 11735 (used machinery & accessories, used and new tooling) <http://www.meramac.com/index.html> 20. EDR, 8C Tinkham Ave, Derry, NH, 03037. 603-437-2993 (Surplus stuff)

MILLENNIAL CUMULATIVE MICROWAVE CONTEST PROPOSAL

Purpose - to encourage microwave activity year round.

Goal - to work as many stations in as many grids as possible, and to encourage new microwave operators.

Period - January 1, 2000 to December 31, 2000

Rules:

1. A station may be worked once in each 4-digit grid square on each band above 2300 MHz from any 4-digit grid square.
2. Either station may move to another 4-digit grid square for additional contacts.
3. Exchange is 6-digit grid square, or 4-digit grid square with penalty. If an operator doesn't know what planet he is on, it doesn't count.
4. All contacts must be at least one kilometer and between different 6-digit grid squares, with the exception of a station's initial contact on a band, which may be any distance. All modes are permissible.
5. Grid circling and other manufactured contacts are prohibited. If it feels like a manufactured contact, don't do it.
6. There is no rule 6.
7. Any form of liason is acceptable: lower frequencies, internet, telephone, cell phone, semaphore, or whatever.
8. Equipment may only be used for one callsign per calendar month, except for members of immediate family. Thus a spare rig may be loaned out to different operators, but only one operator per month. (A new vanity or upgraded callsign is the same operator.)
9. Cooperation and amateur spirit are encouraged. This ain't a DX contest.
10. Any mode that allow exchange of information is permitted, within rules of FCC or other licensing authority.
11. Have fun!

Scoring:

1. Each contact scores one distance point for each kilometer distance between the 6-digit grid squares, as calculated by the BD program.
2. If only 4-digit grid square is exchanged, then distance is calculated to the corner 6-digit square which produce the smallest distance.
3. EME contacts use terrestrial distance if grid squares are exchanged, as above. If only TMO reports are exchanged, then the contact is scored as 500 distance points.
4. Multiplier: Each unique combination of 4-digit grid squares between which a contact is made is a multiplier of one for each band below 24 GHz, and a multiplier of two for bands at 24 GHz and up. All colors of light count as one band.
5. Bonus points: Each new callsign worked scores 100 bonus points. If a station changes callsign during the year, each may be counted. (This relieves other stations of keeping track of all the vanity changes.)
6. New band bonus: Any contact made on a band where the operator has never ever made a contact before scores an additional 1000 bonus points. This means once in a lifetime for each band.

7. TOTAL SCORE = distance points X multipliers + bonus points.

LOGS: should be submitted by 31 January 2001 to N.E.W.S. Summaries will be posted on the internet as received so you know the logs aren't lost. The internet site will allow interim results to be posted during the year to encourage activity.

AWARDS: The highest total score in North America will receive a gaudy trophy. If there is a higher score in the rest of the world, a second trophy will be awarded. Second and third place entries will receive a plaque, and fourth thru tenth places will receive a certificate. All entrants will be listed on the internet.

Comments on this proposal are welcome, in written form, please. They should be addressed to the N.E.W.S. president, KB1VC, at reilly@tiac.net or the callbook address.

FREQUENTLY ASKED QUESTIONS

WHAT ARE YOU DOING UPHERE? We are amateur radio operators. We are hobbyists who build and operate radio equipment for the fun of it.

CAN YOU TALK TO FRANCE WITH THAT THING? Nope. These radios use very high frequency radio waves, just like your television at home. But our receivers and antennas are sensitive enough so that we can hear stations hundreds or even thousands of miles away. Today we'll probably talk to some folks who are set up on other mountains in the north east. Some of them will be three hundred miles away or more.

WHAT IS THAT DISH THING FOR? ARE YOU WATCHING SATELLITE TV TOO? That is the antenna for a portable microwave radio station. We can't watch satellite TV, but we can hear stations that are pretty far away. Almost all of the equipment connected to that dish is home built.

IS ANY OF THIS DANGEROUS? Not unless you trip over it or stand really close to it. Staying at least three feet away is a good idea: the wind blows all sorts of stuff over on this mountain.

SO, WHY DO YOU DO THIS? Well, today a bunch of the hams (amateur radio operators) in this area are having a contest. The object is to contact as many different stations in as many different places over the next two days. Contests are fun, and they give us all a chance to try out new equipment and techniques and mountain-tops.

THAT SOUNDS NEAT. WHERE CAN I GET MORE INFORMATION? There is a national club that has all kinds of information on Amateur Radio. How to get into the hobby. How to get a license. Where to find other hams who can help you get started. They're on the web at <http://www.arrl.org> That's probably a pretty good place to start.

BRENDAN TROPHY NOTICE

Brendan Trophy Bulletin Number 3 dated 19990412 by Pedro M.J. Wyns ON7WP-AA9HX

For those who missed the rest:

Purpose: to cross the atlantic ocean on 144 Mhz using tropo-ducting or other propagation means.

We got some response to our bulletins calling for participants in this trans-atlantic effort, but mainly from the US-side. We would like to see this being the first multi-station effort in order to maximise the chances of succeeding in this trans atlantic VHF-experiment.

Being until now the only european participant, we would like to inform all interested parties about our timing schedule. We would start transmitting on 5 juli 1999 until 13 juli, the first two dates for testing and setting up the equipment as this is also a major european contest weekend. 24 hours a day operation is provided.

We would like to operate from the west coast of portugal near to the city of Porto. The gentle Irish offer we had to refuse because of huge transportation expenses for crossing the channel with two cars and trailers. The canary islands issue is out of the question because of the impossibility to use airplanes for carrying huge antenna systems.

We are now waiting for clearance to use a private property with 230 Volts supply.

The mode of operation will be PSK or CW. PSK looks nice but requests a perfect transmitting/receiving frequency knowledge, not so obvious for todays VHF transceivers. We have access to reference frequencies but not everybody does. We would like to put our signal close (+/- 5 kHz) to the european calling frequency 144.300.

We would like to use 4 pieces of F9FT 16 element yagis on a 20 meter telescopic tower on the coast line and a kilowatt. We think about transmit/receive in a 30 second rythm as used in EME-practise.

As long as we are alone at the European side of the scene, this operation is in doubt. We would appreciate help from Irish and EA-8 colleagues if possible, so let us hear of you please.

All info and feedback appreciated ...

pedro.wyns@emmaus.be
or packet radio ON7WP@ON0RTB.#BR.BEL.EU

We would like to organise a 20 meter round table QSO to meet the other parties saturday 24/4/1999 at 18:00 UTC on 14.180 MHz. Be there...

Joost Luyten, ON2BBP

1999 SPRING VHF/UHF SPRINTS

1. Object: To work as many amateur stations in as many 2 degrees by 1 degree grid squares as possible, using authorized amateur frequencies on the 50, 144, 222, 432, 902, 1296 and 2304 MHz bands.

2. Contest Period:

2.5. The 50 MHz Sprint will be from 2300Z Saturday until 0300Z Sunday (May 15-16, 1999).

3. Exchange: Grid-square locator - signal report is optional.

4. Scoring:

4.1. QSO Points: Count one point for each complete QSO.

4.2. Multiplier: The total number of different grid squares worked. Each 2 degrees by 1 degree grid square counts as one multiplier.

4.3. Final score: Multiply QSO points by multipliers. Each Sprint is scored separately.

5. Reporting: Logs must be submitted no later than two weeks after the closing of the event.

6. Certificates for top three finishers in each Sprint (courtesy WA8WZG).

50 Mhz SPRINT -

<mailto:vhfuhf@voyager.net>vhfuhf@voyager.net

Great Lakes VHF/UHF Group

434 Pattie Ave.

Jackson, MI 49202

1999 N.E.W.S. GROUP VHF CALENDAR:

May 15, 2300Z - May 16 0300Z - 50 Mhz Sprint*

May 22, 1PM - 4PM - N.E.W.S. Group Meeting

June 12-14, 1800Z - 0300Z - ARRL June VHF QSO Party

July 17, Noon - 4PM - N.E.W.S. Group Meeting

August 7-8, 1800Z - 1800Z - ARRL UHF Contest

August 12, 2150Z - Perseids meteor shower

August 21-22, 8AM - 8PM - ARRL 10-GHz Cumulative Contest

August 27-29 - Eastern VHF-UHF Conference

September 11-13, 1800Z - 0300Z - ARRL September VHF QSO Party

September 18-19, 8AM-8PM - ARRL 10-GHz Cumulative Contest

November 6, 1PM - 4PM - N.E.W.S. Group Meeting

November 18, 0140Z - Leonids meteor shower

December 14, 1530Z - Geminids meteor shower

* for details see <http://www.arrl.org/contests/>

**THE NORTH EAST WEAK SIGNAL GROUP'S
SPRINT REPORT TOTALS**

144

Call	Grid	QSOs	Grids	Total
K3MM	FM19	226	48	10848
K1TEO	FN31	186	32	5952
K1UHF	FN31	172	32	5504
K2TXB	FM29	151	34	5134
K1RZ	FM19	120	33	3960
W2KV	FN20	124	27	3348
KA2RDO	FN12	88	33	2904
VE3AX	FN02	72	27	1944
K3GNC	FN20	91	20	1820
WA2BPE	FN12	63	27	1701
WZ1V	FN31	86	19	1634
W3EKT	FM19	68	22	1496
WA3DRC	FN20	78	18	1404
W3SE	DM04	89	15	1335
K9YR	EN52	61	22	1342
W0OHU	EN34	50	19	950
N6OPR	ROVER	69	14	966
WA2ZFH	FN30	63	13	819
N2MH	FN20	58	11	638
KB0VUK	EN34	42	15	630
W1COT	FN31	46	13	598
KC8LGL	EM89	35	17	595
N1RWY	FN54	45	13	585
W1PM	FN41	44	12	528
N6DN	DM14	40	11	440
KF6LT	DM06	34	12	408
KI4M	EM95	40	10	400
KD4K	EM74	29	11	319
KC2EBH	FN03	22	12	264
N0KE	DM69	24	8	192
KQ6BS	DM03	34	5	170
N1MU	FN13	20	8	160
N1MJD	FN34	16	8	128
K7XW	CN96	19	7	133
N8VEA	EN91	13	9	117
KF6MXK	CM87	20	4	80
N2GKM	EM83	12	6	72
KB0NES	EN34	13	4	52
WV2C	FN30	10	5	50
VE2PIJ	FN35	3	1	3

222

VE3AX	FN02	58	31	1798
N2CEI	FN20	70	23	1610
K1TEO	FN31	62	22	1364
K1UHF	FN31	54	20	1080
KA2RDO	FN12	37	21	777
K8GP	FM18	52	13	676
WA2BPE	FN12	33	19	627

Call	Grid	QSOs	Grids	Total
WZ1V	FN31	36	17	612
K1TR	FN42	27	13	351
KB0VUK	EN34	29	12	348
W3EKT	FM19	27	12	324
W1PM	FN41	27	10	270
WA2ZFH	FN30	27	9	243
NY1E	FN43	24	10	240
W3SE	DM04	23	8	184
KB0NES	EN34	21	8	168
K3GNC	FN20	20	8	160
W4EUH	FM18	19	8	152
W1COT	FN31	18	8	144
AA3GN	FN20	20	4	80
K7XW	CN96	9	5	45
K0GU	DN70	9	5	45
K5TR	EM00	6	5	30
KD4K	EM74	6	5	30
N7AU	DN07	9	3	27
N0KE	DM69	6	4	24
N0YNP	DN81	4	3	12
WD0BQM	DN81	4	3	12
N2MH	FN20	4	3	12
VE2PIJ	FN35	2	1	2

432

K1TEO	FN31	104	26	2704
W0RSJ	FN20	62	21	1302
WZ1V	FN31	63	16	1008
K1UHF	FN31	61	16	976
AA3GN	FN20	52	16	832
WA3DRC	FN20	45	17	765
W3EKT	FM19	40	17	680
K3GNC	FN20	44	13	572
K1TR	FN42	42	13	546
K8BKM	EN82	27	18	486
W1COT	FN31	44	11	484
K2YAZ	EN74	19	17	323
N2MH	FN20	35	6	210
WA2ZFH	FN30	24	8	192
W1PM	FN41	21	8	168
KB0NES	EN34	23	6	138
W1ATT	FN31	21	5	105
N6DN	DM14	21	4	84
K7XW	CN96	14	6	84
N3XJX	FN10	11	7	77
K9RQ	EN 61	8	8	64
KB1VC	FN42	12	5	60
KC2BMA	FM29	13	4	52
N0KE	DM69	8	5	40
N1RWY	FN54	8	5	40
N9TZL	EN52	7	5	35
N8VEA	EN91	8	3	24
K9YR	EN52	4	4	16
KF6MXK	CM87	6	2	12
K3IXD	FM19	5	2	10

LIGHTNING PROTECTION BY "GEO" KOFF

Lightning takes the form of a pulse which has a rise time of about 2microseconds and a decay time of between 10 and 45 microseconds. The IEEE "standard" strike is 8x20 us with a current average of 18,000 amps for the first impulse and about 1/2 that for the second and third. An average strike will have 3 stroke. Lightning protection systems are designed to deal with a direct strike. Their primary function is to ward off a direct strike by providing a protection zone of about 150 feet in a ball around them. Most damage is not caused by a direct strike, but by huge voltages induced in conductors due to the EMP from a NEARBY strike. Ringing voltages are also set up in antennas at their resonant frequencies and this on-frequency pulse can cause damage to equipment.

The electrical resistance of the tower, feedline and ground cable is not nearly as important as its' INDUCTANCE. Since lightning is not DC but a complex waveform, the inductance must be kept low so as to shunt the current to ground. Thin copper strapping works better than thick round wire. Several ground rods work better than one huge rod. The green wire in the A.C. "safety cord" is useless as a ground for lightning since it has a high inductance (especially if coiled!)

Coax should come all the way down to the bottom of the tower before entering your house. Any point above the bottom will be at some potential, just like a voltage divider. If the top of the tower is at say 240 KV, and the bottom is zero, then a point halfway up must be at 120KV! Ideally the outer shield would be grounded at the point where it enters you house through a conductive plate which has a good ground attached. This plate should then become the point at which ALL grounds in the system terminate. It must also be bonded to the electrical box ground rod and the telephone ground rod (if separate). This is what is known as SINGLE POINT GROUND SYSTEM. It is the zero voltage reference for the whole system. Your TVI filters and lightning suppressors should also be located here. "Grounding" everything to a different "ground" is counterproductive, as ground-loop currents can be set up and actually be the cause of damage during a strike, as well as promoting TVI.

At KOFF, all the coax cables, telephone lines, rotor and Beverage box lines, and remote coax relay lines, terminate at a 7 foot relay rack in the basement just under the first floor ham shack. On thick aluminum panels, I have mounted all the Polyphaser lightning suppressors for coax, telco, and control lines. On another panel is mounted the HF-VHF-UHF TVI filters and the first set of remote coax relays. At the bottom of the rack is mounted a 150 Amp 12VDC power supply, and another 50 Amp backup power supply. Each panel is bonded to the relay rack at a single point, which then goes to an extensive ground system. In the shack, the room is ringed by a 1/4 inch thick by 2 inch wide copper ground buss with 1/4 inch holes drilled every 6 inches.

Each piece of equipment in the shack is bonded to that buss with a multistrand cable with crimped (not soldered) terminals. The A.C. power is bypassed first with a shunt protector (M.O.V.) and then with a commercial series protector which is also bonded to the buss with 2" copper strap. The buss in turn is attached to the single point grounding system with copper strap. A main switch at the desk activates all the power and also turns on the power supplies in the basement. When the switch is OFF, all the coax relays drop and ground the center conductors of the coax. A few turn coil in the coax, laid on the concrete floor, between the lightning suppressor and the rig acts like a choke, further protecting the rig.

At the towers (5 so far) each leg is grounded with 2" copper strap each going to 1 to 3 buried ground rods. Sharp bends in the strap are avoided, as they raise the inductance. My towers are self-supporting, but if they had metal guy wires, I would have grounded the bottom end of the guy wire BEFORE the turnbuckle to prevent strike current from passing through the turnbuckle, possibly exploding them and causing them to fail.

Basic Rules:

There is but ONE grounding system. ALL ground rods shall be interconnected. Ground the coax shield AT THE SINGLE POINT GROUND. Provide a series type coax lightning suppressor. Treat ALL methods of ingress: i.e. Telco, rotor control, coax, coax relay control, A.C., etc. Run coax all the way to the bottom of the tower. Ground guy wires before the turnbuckles. Protect the connections with joint grease, then bury the ground rods - this is also a safety factor.

Lightning can't always be avoided. Damage to HAM equipment can be minimized in a direct hit, and nearly eliminated in nearby hits (the most common). You can take precautions that should save your life and your house.

DE George "GEO" KOFF

25TH ANNUAL EASTERN VHF/UHF CONFERENCE

25th Annual Eastern VHF/UHF Conference will be held on August 27-28 once again at the Harley Hotel in Enfield, Ct. We will have it all this year - Guest speakers, Band Sessions, Lab Sessions with live demonstrations, Antenna measurements, flea market and more. Articles for the Conference Proceedings should be submitted by June 1, 1999 in camera ready format to Bruce Wood - N2LIV, 3 Maple Glen Lane, Nesconset, NY. Let's all set this weekend aside and make it a gala 25th. Any questions please call Bruce at (516) 265-1015 (h) or 225-9400 (w) or e-mail at bdwood@erols.com

We still need help with registration at the door and mailing announcement/flyers, if interested please contact Bruce N2LIV.

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DO IT YOURSELF 10 GHZ KIT, I had started a second rig and no longer need it since I acquired several others. DEM 28-432 converter, Frequency West Brick LO w/crystal, 12-24 DC-DC Converter, mixer and splitter, 1 watt Qualcomm PA, Qualcomm LNA, Qualcomm power supply, chassis and case all predrilled. Needs antenna and control relays, which I may be able to help with. All documentation included. I have used a similar rig for several years now. \$550.00

All plus shipping or can deliver to next NEWS meeting.

LOOKING FOR: Heavy duty 19" rack shelves and 8" rack handles. Need 3 of each.

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	above includes a free HP 8750A storage normalizer without cable.		
HP	8410C/8412B/8411A opt018	.1 TO 18 GHz NETW. ANAL. W/ P/G DIS.	500
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HP	8743B 018	REFLECTION TEST SET 2 TO 18 GHz	180
Systron Donner	KRS5000/5011,13,14,15,16	SWEEP GEN WITH 1-18GHz SWEEP PLUG INS	350
	above includes 5 tested good modules combined range of 1 to 18GHz		
Systron Donner	KRS5000/5014	SWEEP GEN WITH 4-8GHz SWEEP PLUG IN	130
	above includes a 5013 module with a broken connector 2-4 GHz		
AILTEK	9515D/9514D/6600B	SWEEP GEN .01 to 18 GHz in 1 or 4 bands	500
WAVETEK	2002A	1 TO 2500 MHz SWEEP GENERATOR	325
HP	8754A	4-1300 MHz NETWORK ANALYZER SYSTEM	900
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ALL OF THE ABOVE IS TESTED IN GOOD WORKING CONDITION BUT NO CABLES, MANUALS OR ACCESSORIES.

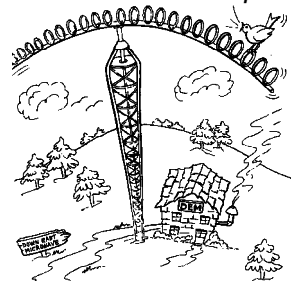
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NEXT N.E.W.S. GROUP MEETING SATURDAY
MAY 22ND 1:00 PM AT THE HARLEY HOTEL

ALL ARE WELCOME TO THE DIRECTORS MEETING 11:00 AM

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 K1UHF
Del Schier
126 Old West Mountain Road
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