



N.E.W.S. LETTER



The Publication of the North East Weak Signal Group

JANUARY 1997

VOLUME FIVE

ISSUE ONE

President: WZ1V Ron Klimas
Vice President: AF1T Dale Clement

CURRENT OFFICERS

Secretary: N1LZC Mark Casey
Treasurer: N1DPM Fred Stefanik

NEXT MEETING

**NEW MEETING PLACE THE HARLEY INN
THE NEXT MEETING IS ON JANUARY 4, 1:00
DIRECTORS MEETING AT 11:00AM, ALL WELCOME**

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OPERATE THE JANUARY VHF SS AND SEND IN YOUR SCORE FOR THE CLUB!!!!

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 PRESIDENTS SHACK

BY: RON KLIMAS WZ1V

Well, since our last meeting, the last of the leaves fell off the trees and we got to dig ourselves out of the season's first major snowstorm. Hopefully everyone got their antenna projects completed by now. I just managed to finish putting up all new yagis and feedline by Thanksgiving after a years planning (or was that procrastinating?). Lots of things happening within our club this past few months as well. We've got some new officers and a new meeting place. I'd like everyone to welcome Dale Clement AF1T as our new Vice President and Fred Stefanik N1DPM as our new treasurer and dues collector. And of course, I'd like to thank all of you for giving me a chance to serve as our club's president, I'm looking forward to an exciting year! Look for complete contact info. on our current team in this issue. Thanks to Stan Hilinski KA1ZE, we also have a finer facility, the Harley Hotel in Enfield CT as our new club meeting place which we will all get a chance to christen at our January 4 club meeting.

We've also made some progress on our 2M beacon project. Emil Pocock W3EP/1 has ordered the beacon from VE2UG. It's a 60 W Micor with an eprom-based ID'er built-in and a 144.299 channel element that's tuneable +/- 5 KHz. Mark Casey N1LZC has found a commercial tower site we can use on Cape Cod, MA near Brewster. Both Fred Stefanik N1DPM and I have secured hardline for the install. All we need now is an antenna, a 13.8 VDC 35 A power supply, and some volunteers for installers/maintainers. If you're willing to lend a hand with this project in any way, I want to hear from you immediately!

And yes, it's also that holly jolly time of year now. I mean besides Christmas - that's right, I'm talking about the ARRL January VHF Sweepstakes and Club Competition. Time to dust off and polish your 50 MHz and up gear, and like those proud and happy elves, put your wares to the test on the biggest day of the year - CONTEST Day! It doesn't have to be a kilowatt into stacked antennas either. A simple FM simplex rig and a relatively small antenna can still work a lot of QSO's during a contest like this one. And we need those scores, each and every one, no matter how big or small, marked for addition to our club's score. To up the ante this year, as if you weren't already psyched, the NEWS Group will be offering awards to the ten highest scoring NEWS members in our club.

At our January 4 meeting, we'll give you hints and tips on how you can improve those scores. KA1ZE, KD1DU, N1DPM, WA2TEO, myself and others will give you our best inside scoops on what's worked for us. We'll invite audience participation, so bring your experiences with you. As always, bring items for sale or swap during our break, but this time, also please bring an item or items of little or no value to you for our all new SILENT AUCTION, where you can trade them for items of

little or no value that someone else brought !

'Til then, 73's, and I'll see you on the bands...

-Ron, WZ1V, 50 - 2304 MHz

ON THE BANDS

BY RON KLIMAS WZ1V, FN31

After much hemming and hawing, yours truly finally completed work on a total remake of my antenna system on November 18. This time it's nine yagis for seven bands on a 24 foot mast on a 60 foot tower. Stacked 14 el 24 foot HB yagis on 144, a pair of M2 28 el on 432, and a new FO-16 on 222 at 70 feet. Single yagis/loopers for the rest of the bands also. I used Times Microwave LMR-400 for the phasing lines and LMR-400UF for flexible jumpers to the tower hardline connectors. A ratcheted power-puller (come-along) assisted in pushing the mast up after the weight of adding the 5th antenna overwhelmed me. I'd like to thank our editor Del KD1DU for his welcome assistance in dismantling the old array.

Results have been excellent. I noticed the difference right away on my weekly 2 Meter skeds with W1AJR/8 in EN91 Ohio. The 3 dB stacking gain seems like more than that, and with reduced QSB on the 400 mile path. The 4 dB improvement over what I had on 432 was even more dramatic - I'm now able to work Andy on 432 reliably where it always took a band opening in the past to do it. Andy runs 200 watts to a 28 foot yagi on 2 and 150 watts to 4x 8 el. on 432. Something to be said about stacked antennas.

Thanksgiving brought Es openings to six meters on the 22nd to W8's, 9's and 0's. Again on the 28th to 4's and 5's. I also caught Es openings on December 11 and 12th, and there were probably more.

The December 12 and 13 Geminids meteor shower brought good tidings to at least two VHFers I know of. Clint W1LP (ex-N1KTM) in FN41 completed 5 out of 7 two meter skeds. Best catches were with WA9LWJ EN54, K9CA EN61, and K8BHZ in EN75. Guess those new pair of stacked 9's and the 3cx800 are playing well for you Clint! Jerome K3GNC FM29 reports confirming MN and WI for 2 new states with AA9A0 EN64 and N0HJZ EN34. Congratulations, guys!

That's all for now, Folks. See you at the January meeting and on the bands in the January Contest! 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. Looking for Ham/Engineering software or tech info?

Try our Internet Webpage at <http://uhavax.hartford.edu/newsvhf> 73, Ron WZ1V, internet email: wz1v@connix.com 50 through 2304 MHz.

SILENT KEY, WB2DVK

Ron Katz, WB2DVK was killed on December 16 in a light plane crash. Ron from Long Island attended many N.E.W.S. group meetings with me. Ron was an avid microwave enthusiast active in the 10X Group and will be missed by all that knew him.

Bruce, N2LIV

N.E.W.S. GROUP JANUARY 4 MEETING:

NEW LOCATION!!!!!!

AT THE HARLEY HOTEL OF ENFIELD, CT

The North East Weak Signal Group will be testing a new meeting place beginning with our Jan 4 1997 meeting: Our new meeting place is the Harley Hotel of Enfield, CT (FN31qx) (15 miles north of Hartford, I-91 to exit 49, I-91 S to exit 49, left off exit, take 1st right, hotel is on left. I-91 N to exit 49, right off exit, take 1st right, hotel is on left. if southbound left off exit - 1st right / if northbound right off exit - 1st right).

NEXT MEETING **SILENT AUCTION**

On January 4th, please bring a VHF/UHF/SHF item or items of little or no value to you for our all new SILENT AUCTION, where you can trade them for items of little or no value that someone else brought!

DUES ARE DUE!!!

Look at the mailing label on the back cover if your expiration date has expired or is about to expire we need your dues if you wish to continue to be a club member and receive the N.E.W.S. letter. Send a check or money order for \$10.00 to our new treasurer; Fred Stefanik, 50 Witheridge Street, Feeding Hills, MA 01030

NB2T REPORT

Lou reports working AD4TU, FM08 10/7/96 on 144; KO0U/1, FN42 10/8/96 on 432; W3OR, FM28 and WB3F, FM19 10/13/96 both on 144 & 432 and Lou heard the VE2SMU/B beacon on 144 at 1100Z on 10/11/96. He heard W3VD/B for 14 days on 144 and W3CCX/B 30 days on 432.

1997 N.E.W.S. GROUP OFFICERS:

PRESIDENT: WZ1V, Ron Klimas, 458 Allentown Road, Bristol, CT 06010, FN31
Home: 860-589-0528, Work: 203-773-6046
ACTIVE ON: 6, 2, 222, 432, 903, 1296, 2304

VICE PRES: AF1T, Dale Clement, 2 Corbin Road, Henniker, NH 03242-3367, FN43
Home: 603-428-3840, Work: 603-627-7877
ACTIVE ON: 6, 2, 222, 432, 903, 1296, 2304, 3456, 5760, 10 GHz.

SECRETARY: N1LZC, Mark Casey, 303 Main Street, Hampden, MA. 01036, FN32
Home: 413-566-2445
ACTIVE ON: 6, 2, 222, 432

TREASURER: N1DPM, Fred Stefanik, 50 Witheridge Street, Feeding Hills, MA 01030, FN32
Home: 413-786-7943, Work: 413-569-0116 ext.211
ACTIVE ON: 6, 2, 222, 432, 903, 1296, 2304, 3456, 5760

(N1DPM is our \$10/year dues collector now)

BOARD OF DIRECTORS:

K1WHS: Dave Olean, RFD 1 Box 282 Poplar Hill Road, West Lebanon, Me. 04027, FN43
Home: 207-658-9076
ACTIVE ON: 6, 2, 222, 432, 903, 1296, 2304, 3456, 5760, 10Ghz

K1LXD: Rae Bristol, 328 Mark Drive, Coventry, CT 06238, FN31
Home: 203-742-8650
ACTIVE ON: 6, 2

N2MSS: Hank Lopez, 34 Bell Lane, Tappan, NY 10983, FN31
Home: 914-644-4771
ACTIVE ON: 6, 2, 222, 432, 1296

WA2TEO: Jeff Klein, 11 Farmview Cir., Trumbull, Ct. 06611, FN31
Home: 203-452-7656, Work: 203-852-1100
ACTIVE ON: 6, 2, 222, 432, 903, 1296, 2304

-73 de Ron WZ1V

-Email: wz1v@connix.com

-WWW: <http://www.connix.com/~wz1v>

OPERATE THE JANUARY VHF SS AND SEND IN YOUR SCORE FOR THE CLUB!!!

SECRETARY'S REPORT NOVEMBER 9, 1996 MEETING

37 members were in attendance when Pres. Bruce Wood opened the meeting at 1:30. It was voted by a majority that the next meeting will be Jan. 4, 1997

The future meeting dates at this time will be- Jan 4, Mar 15, May 24, Jul 12, Aug 23 and Nov 8, were announced as well as holding the 1997 Eastern VHF/UHF Conference on Aug 22-24.

Stan Hilinski KA1ZE, our conference chairman announced that he was unable to procure the Quality Inn for our Conference meeting place this year, largely due to a lack of communication and cooperation on their part. He proposed that we hold the conference this year at the Harley Hotel in Enfield CT (5 miles south of Springfield MA off I-91), and furthermore, that we consider moving our club meetings there. After some discussion, Steve Powlishen K1FO suggested we try it out for our next meeting as a test run. A majority of members in attendance approved and passed a motion to make this so.

Bruce Wood N2LIV announced he was not seeking re-election this term and proposed a slate of officers and board members for the 1996-1997 term: Ron Klimas WZ1V for president, Dale Clement AF1T for vice president, Mark Casey N1LZC for secretary, and Fred Stefanik N1DPM for treasurer. In addition, that Dave Olean K1WHS and Jeff Klein WA2TEO be re-elected for 2 year terms on the board of directors. There were no other proposals, so a motion was made to nominate the proposed slate, which passed by a majority vote of the membership.

Ron Klimas WZ1V proposed purchasing a 60 watt Micor modified for 2 meter beacon use, complete with eeprom-based CW ID'er. This would be purchased through the donated funds for our club beacon project. Timeframe for completion was tentatively set for Spring 1997. Mark Casey N1LZC announced we have a commitment from a commercial tower site in Brewster, MA for this purpose. Still needed are 150' of 7/8" hardline, and a 13.8 VDC power supply capable of 35 Amps.

Following a short break, there were at least a dozen members that brought home-brew projects for show-and-tell. Notably, Ken W1RIL brought 3 different 10 GHz linear PA's ranging from 2 to 5 watts, and amps and pre-amps for 24GHz. W1VT (formerly KH6CP), Zack with a 14" dish, WB1FKF with a 2 meter IF driven doubler for 24 GHz., and N1DPM with a new 1296 amp. There were also amplifiers for 5.6 and 10 GHz using the new Mini-Circuits 8 GHz MMIC's. Steve K1FO showed off his hb 8877 amp for 2 meters made using only hand tools. Del KD1DU brought his mast mountable 10 GHz 1 watt transverter / 2 ft. dish station, and Ron WZ1V brought his mast mountable 2304 MHz 2 watt transverter. Steve N2CEI discussed an article he wrote on updates to DEM microwave transverters employing the new Mini Circuits devices.

Our next meeting is January 4th 1997 and will feature a contest-related topic.

Respectfully submitted, Mark Casey, N1LZC, Secretary

CIRCULAR POLARIZATION NOTES FROM THE REFLECTOR

Joe KF6CWX wrote:

>Wouldn't it be neat to have some sort of oscilloscope type gadget that could >"see" the incoming RF signal and present a visual representation to you. And >to make this information useful, you'd have some sort of cool antenna that >could change polarization in degrees to match the incoming signal. "Hey Bill, >I've got you at 60 degrees elliptical today, how do I sound on the return >path?" I know this sounds weird. But I dream about this kind of stuff. Hey, >whatever gets you to sleep at night right?

I am using such a system since last year. It is particularly useful for EME, and it is also good for aurora and sporadic E. For all scatter modes, tropo scatter, iono scatter and meteor scatter though, it is of no value at all. The forward scatter modes all come in perfectly horizontal - and I have never seen any exception from this rule but for a few stations who were using vertically polarized antennas (FM and packet is vertical here in Eu, while SSB and CW is horizontal)

Another thing is the signal from "local" stations. When we point antennas randomly, the signal is largely propagated by reflections, and then the polarization is completely random. It may be horizontal, vertical, left circular or right circular with equal probability, but in general it is elliptic. When antennas are pointed towards each other the polarization always is linear and horizontal. Then we do not have reflections, only bending by diffraction.

Note that circular is no better than linear on reflections, the probability of the signal rotating in the wrong direction is the same as for any other polarization. Regardless what polarization you choose, 50% of the cases will be in the wrong polarization!! I have also listened once to AO13, and the polarization was not circular, it was more or less linear. An adaptive polarization system is also good for satellite work!

As a general conclusion: A circularly polarized antenna is not a good idea for terrestrial work. If you put up a cross yagi, do not arrange it for fixed circular, arrange it so you can switch between at least a few different polarizations.

I am in the process of setting up a site on the internet with various hints on weak signal equipment. It is far from finished, but there is a good bit of information about polarization there: SM5BSZ home page (Alta Vista) or <http://ham.te.hik.se/homepage/sm5bsz/index.htm>

73's Leif / SM5BSZ

**THIS PAGE WAS
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FOR N1DPM'S
ARTICLE**

**OPERATE THE- ARRL JANUARY VHF
SWEEPSTAKES ON THE 18TH AND 20TH
AND SEND IN YOUR SCORE FOR THE
CLUB**

The January contest is the club participation contest, try to get on if even for a few minutes and send in your score for the club , just check off club participation and put in the N.E.W.S. Group.

If you are only going to be on for a short time try and work the other club members if everyone participated we would easily win the club competition by working each other.

The contest period is from 1900 UTC Saturday, January 18, to 0400 UTC, Monday, January 20, 1997. You can operate during the entire contest, or as much or as little as you like. It's entirely up to you, but the more you operate, the more fun you're going to have. You also have a choice of entering single operator (single band, multiband, QRP portable or rover), multioperator or limited multi-operator.

Don't forget the scoring is different for the January Sweepstakes and is as follows:. QSO points: Count one point for each complete 50- or 144-MHz QSO. Count two points for each 222- or 432-MHz QSO. Count four points for each 902- or 1296-MHz QSO. Count eight points for each 2.3-GHz-or-higher QSO.

If you don't get on long enough to work all of the N.E.W.S. members at least work me, Hi, Hi.

Del, KD1DU
FN31 A,B,C,D,9,E

CRYSTAL HEATERS

Dave Mascaro WA3JUF, wrote a short article about temperature compensation which appears as page 58 of the 1995 Pack Rats Notes. His article mentions the Yaesu part in question as the G9090019 thermistor, and indicates that it "comes with it's crystal holder that slides over an HC-25/U crystal." Dave also recommends the KC004P thermister from Digi-Key (\$2.31 each). I have used these myself, by unsoldering the lead from one side and soldering directly to the crystal as described in the article.

Dave Meier N4MW
N4MW@msn.com

**ADJUST THOSE AMPS FOR A CLEAN
CONTEST SIGNAL**

KM1H wrote:

>The 4CX250, 4CX300 and 8560 will all do a decent job on SSB
>as long as the plate voltage is kept under 2000VDC. The IMD
>performance goes down rapidly at higher voltages. Some
>hams run 2500V or more and claim loads of RF but they don't
>have to listen to their trash. A clean 250-350W per tube is
>typical.

The usual reasons for poor-quality signals from 4CX250Bs are:

- * Overdriving into grid current
- * Poor screen voltage regulation
- * Incorrect loading for maximum power output instead of optimum load impedance
- * General over-ambition, trying to get more than 250W PEP output per tube.

I'm not aware that increasing the plate voltage makes the IMD any worse - rather the opposite, because it increases the available voltage swing. 2000V is fine, so long as it doesn't sag at high current, but IMD becomes markedly worse at plate voltages below about 1800.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)

NEW 10 GHZ BEACON

Ron Byzet WA4PRR activated his 10 GHz beacon on Friday, November 29, 1996. I was present to assist and to confirm that the beacon was functioning as planned. Here are the particulars:

Callsign: WA4PRR/B
Frequency: 10367.987 (Frequency West ovenized source)
Location: Sunderland, MD (Calvert County) FM18qq
Power: +13 dBm (20 mw)
Emission: FSK (approximately 1 kHz shift)
Antenna: 12 slot waveguide at 15 meters

Test reception of the beacon was made at distances out to 20 km using a horn antenna held inside a moving vehicle. We would appreciate hearing any and all reports of other reception. Send reports to WA4PRR@amsat.org. I would also appreciate a copy of reports.

Dave Meier N4MW
N4MW@amsat.org

OPERATE THE JANUARY VHF SS AND SEND IN YOUR SCORE FOR THE CLUB!!!!

1996 N.E.W.S. GROUP VHF+ CALENDAR:

JANUARY:

- 3 - Quadrantids meteor shower peaks at 1800 UTC.
- 4 - N.E.W.S. Meeting, Harley Hotel, Enfield, CT at 1 PM.
- 18-20 - ARRL January VHF Sweepstakes.

MARCH:

- 15 - N.E.W.S. Meeting, Harley Hotel, Enfield, CT at 1 PM.

APRIL:

- 14 - 144 MHz Spring Sprint Contest, 7 - 11 P.M.. local time.
- 22 - Lyrids meteor shower peaks at 1450 UTC.
- 22 - ARRL 222 MHz Spring Sprint Contest, 7 - 11 P.M.. local
- 30 - ARRL 432 MHz Spring Sprint Contest, 7 - 11 P.M.. local

MAY:

- 5 - e Aquarids meteor shower peaks at 0520 UTC.
- 10 - ARRL 902-2304 MHz Spring Sprint, 6 A.M. 1 PM local
- 17 - ARRL 50 MHz Spring Sprint Contest, 2300 - 0300 UTC.
- 24 - N.E.W.S. Meeting, Harley Hotel, Enfield, CT at 1 PM.

JUNE:

- 7 - Arietids meteor shower peaks at 0910 UTC.
- 14-16 - ARRL JUNE VHF QSO Party.

JULY:

- ?-? - CQ WW VHF Contest
- 12 - N.E.W.S. Meeting, Harley Hotel, Enfield, CT at 1 PM.
- 25-26 - 31st Annual Central States VHF Society Conference.

AUGUST:

- 2-3 - ARRL UHF Contest, 1800 - 1800 UTC.
- 12 - Perseids meteor shower peaks at 0640 UTC.
- 16-17 - ARRL 10 GHz Cumulative Contest, 1st weekend.
- 22-24 - 23rd Annual Eastern VHF/UHF Society Conference

SEPTEMBER:

- 13-15 - ARRL September VHF QSO Party.
- 20-21 - ARRL 10 GHz Cumulative Contest, 2nd weekend.

OCTOBER:

- ? - 21st Annual Mid Atlantic States VHF Conference.
- ? - Pack Rats' Hamarama '97 hamfest.

NOVEMBER:

- 8 - N.E.W.S. Meeting, Harley Hotel, Enfield, CT at 1 PM.
- 17 - Leonids meteor shower peaks at 1400 UTC.

DECEMBER:

- 13 - Geminids meteor shower peaks at 2230 UTC.

1997 ARRL January VHF=20
Sweepstakes=20

SEPTEMBER 96 VHF CONTEST TOP TEN

SUPER HEROES/VILLAINS

BY GEROME BYRD, K3GNC

1. WA8WZG - THE INCREDIBLE HAWK: (391K!)

'PLEASE JOEL, DON'T EVER BEAT ME IN A CONTEST AGAIN. IT MAKES ME ANGRY. NO VHF+ CONTESTER WANTS TO SEE ME ANGRY. WHEN I GET ANGRY I DO TERRIBLE DESTRUCTION TO THE COMPETITION'

2. K9PW - THE SHADOW (280K)

'THE SEEDS OF OTHER CONTEST ENTRIES HAVE BARED BITTER FRUIT. ONLY SEPTEMBER CONTESTING HAS PAID. K9PW KNOWS MUUUUUHAHAHAHAHAHAHAHAHAHAHAHA.'

3. K1RZ - "THE TERMINATOR" (202K)

'HE WON'T STOP UNTIL HE WINS. CONTESTING IS WHAT HE DOES. HE HAS 2.3 GHZ NOW. HE WON'T SLEEP, HE WON'T DRINK, HE WON'T STOP HE'LL NEVER STOP!!!!!!.....'

4. KE8FD - "ZORRO" (137K)

'OUT OF THE OHIO NIGHT, WHEN THE FULL CONTEST IS BRIGHT COMES A GRID HORSEMAN KNOWN AS GARY. HIS BEAMS CARVE A 'G', A 'G' FOR HIS NAME, A GRID MASTER KNOWN AS GARY'

5. N2CEI - "THE LONE RANGER" (126K)

'OUT OF THE WESTERN NEW JERSEY SKIES, COMES A CLOUD OF RF DUST AND A HARDY HI-HO STEVIE.. N2CEI RIDES AGAIN!!!'

6. N2BJ - "BATMAN" (116K)

'YOU JUST KNOCKED OFF FOUR OF THE BEST CONTESTERS. WHERE DID YOU COME FROM? WHO THE HECK ARE YOU? I'M N2BJ - MAN!'

7. KD1DU - "SERGEANT PRESTON OF THE YUKON" (113K)

'WITH FAITHFUL 4 BAY 2 METER ARRAY - YUKON KING, SERGEANT PRESTON STRIVES TO BRING LAW AND ORDER TO THE CONNECTICUT WILDERNESS. MUSH YOU HUSKIES, MUSH.'

8. W8ULC - "SPIDERMAN" (106K)

'GRID SPIDERMAN, GRID SPIDERMAN, CATCH ALL THE GRIDS THAT GARY CAN. SPIN A GRID WEB, LISTEN BUD, HE HAS RADIO-ACTIVE CLUBS. LOOK-OUT, HERE COMES A GRID SPIDERMAN...'

9. WB2DNE - "SECRET AGENT MAN" (105K)

'THERE'S A CONTESTER WHO LIVES A LIFE OF DANGER. HE COMPETES AGAINST K1RZ, SO HE REMAINS A STRANGER. IN EVERY CONTEST HE COMPETES, HE POSTS TOUGH SCORES TO BEAT. ODDS ARE THAT HE WON'T BEAT K1RZ TOMORROW. SECRET AGENT MAN, SECRET AGENT MAN, YOU GIVEN GREAT EFFORTS BUT YOU NEVER GET THE FAME.'

10. W3IP - "THING FROM THE FANTASTIC FOUR" (88K)

'I USUALLY WAIT FOR THE REST OF THE TEAM, BUT SINCE THEY WEREN'T AROUND, IT WAS CONTEST CLOBBERING TIME!'

OPERATE THE JANUARY VHF SS AND SEND IN YOUR SCORE FOR THE CLUB!!!!

VHF EMI TIPS FROM THE "REFLECTOR"

A few basic techniques may assist in resolving EMI-RFI-EMC problems. Treat the computer (cabinet) and EACH connected peripheral as a potential noise source. Any metal conductor connecting the computer and its peripherals can act as a radiating antenna causing harm to the ham radio receiving capability...

Contain the noise source in its own box with a shielded enclosure and good electrical bonds on all interconnected metal parts of the case. Metal to metal bonds may require scraping away the paint where case parts are screwed together. Metalized plastic parts also require good electrical bonds. All cases must be complete, do not operate the computer equipment with the covers off or loosely put together.

Filter all leads coming into or leaving the computer (or peripheral) chassis. AC power line filters are an example, for the power line.... choke, with ferrite material, all other conductors interconnecting the system. RS-232 serial lines to the modem, choke at both ends since a external modem can also be a noise source, telephone lines, at the external modem or at the computer internal modem input, parallel cable to the printer, similarly at both the computer and at the printer, line out, speaker out, and mic inputs to the sound card, monitor connecting cable, similarly choke both ends, at the computer and at the monitor.

Choking with ferrite "clam shell" blocks or toroids is only an initial attempt. If leaking signals on a cable need to be reduced more, a special filter may have to be designed and added to the computer I/O connector. Usually ferrites on the cables will significantly reduce leakage..

What is the best way to monitor if RF noise is being conducted out of the computer on a cable? Monitor the cables conducted RF current with a RF current probe and a spectrum analyzer or a receiver for the band of concern..

How do I isolate which component is offending ?remove one peripheral at a time and turn off the AC power for that item , disconnect the associated cable at the computer, Monitor the 6M receiver to determine if the problem went away or was reduced. a simple process of elimination is suggested.

In my shack I use a Gateway 133 Mhz pentium, external US Robotics 28.8 modem, HP-5L laserjet printer, and speakers. The peripherals are the noisiest.... The HP-5L is brutal on 6M (even in sleep mode..) and the modem is bad on 2M.... The offending peripheral is turned off when operating the radio station.

Other fine points.....keep the antenna physically separated from the potential noise sources. The shack in the basement , with a 100' tower for the 6M antenna..... use premium coaxial cable with a solid copper shield like ANDREW superflex, or mil grade double shielded coax like RG-223, -214 or -142B signals can leak into the coax or out of the coax, anywhere along its length. poor coax can give 20 dB of isolation between adjacent coax cables, premium solid copper shield yields more than 120 dB of isolation..... The new TIMES LMR cables spec isolation at greater than 90 dB .

Be careful of RF noise current that is inadvertently put on the ground system. Monitor the RF noise conducted to ground from computer equipment. The metallic ground system can radiate as an antenna or conduct RF noise to sensitive receiving equipment.

Stan, WA1ECF RFI-EMI-EMC system specialist

ISOLATING LINE NOISE FROM UTILITY POLES

A previous posting indicated a method of striking a utility pole with a hammer to isolate faulty connections on that pole.... The pole may be isolated, but the real question is , what connection is faulty among the many potential sources such as leaky (cascaded) bell insulators, lightning arrestors, transformers, or other poor electrical bonds. The worst case is when a live high voltage line becomes loose and is shaken free of its securing hardware, with the vibrations from a hammer blow. The loose energized line may come down on you..... or other in the area...

IMHO I submit the following alternative, more politically correct and certainly more technically accurate method with out potentially "destructive testing". (I prefer to leave ALL utility pole work for the electrical utility crew responsible for the pole.) after the offending utility pole is isolated with traditional VHF LOB (line of bearing) techniques or driving by with an omnidirectional antenna and monitoring signal amplitude....use a directional ultrasonic detector to localize the exact location of the noise source on the pole. The micro-arcing and sparking gives off a characteristic signature of acoustic noise in the 30 to 60 kHz range.

The RADAR ENGINEERS firm on the NW left coast offer such a device...At one time HP offered a model 4918A ultrasonic translator, leak detector with accessories for very directional sensing...Other ultrasonic leak detectors can be used if they have a directional sensor..

Stan, WA1ECF, EMI/RFI, EMC system specialist

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For sale: 4-bay DEM 1296 array. 4X 45 el loopers with power divider and stacking frame. \$335. Pickup or can bring to next NEWS meeting. Call Jeff at 203-452-7656.

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N.E.W.S. GROUP JANUARY SWEEPSTAKES AWARDS

As mentioned earlier, the NEWS Group will be offering awards to the ten highest scoring NEWS members in our club. To enter you must mark the N.E.W.S. Group as your Affiliated Club when you send in your contest score to the ARRL. In addition you must also send your score summary to me within 30 days of the end of the contest. At our March 15 meeting, we will present a plaque to the highest score-maker, and certificates to the next nine highest. 73 es GL, Ron WZ1V

N.E.W.S. GROUP JANUARY 4 MEETING: **NEW MEETING PLACE AT THE HARLEY HOTEL OF ENFIELD, CT** **(15 MILES NORTH OF HARTFORD)**

FEATURING: 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.

VHF CONTESTING Forum from KA1ZE, KD1DU, N1DPM, WA2TEO, WZ1V and others.

SILENT AUCTION - You won't want to miss this!

As always there will be a break in the middle for socializing and/or swap and sell —

The new meeting place is the 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
Del Schier
126 Old West Mountain Road
Ridgefield, Connecticut 06877

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