



# N.E.W.S. LETTER



The Publication of the North East Weak Signal Group

JANUARY 1998

VOLUME SIX

ISSUE ONE

President: N2MSS Hank Lopez  
Vice President: AF1T Dale Clement

## CURRENT OFFICERS

Secretary: K1MAP Mark Casey  
Treasurer: N1DPM Fred Stefanik

## NEXT MEETING

**THE NEXT MEETING IS ON JANUARY 3RD, 1:00 PM AT THE HARLEY INN  
ALL ARE WELCOME TO THE DIRECTORS MEETING AT 11:00 AM  
TEST EQUIPMENT PRESENTATION BY PAUL SWEDBERG, WBSTL**

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**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>

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## **SECRETARY'S REPORT OF GENERAL MEETING NOV., 9, 1997**

President Ron Klimas, WZ1V, opened the meeting at 1:30 PM. The first order of business was the election of officers. Hank Lopez, N2MSS, was nominated and elected as the new President of NEWS by a clear majority. John DeNardo, N1MUW was nominated and elected as a new board of directors member by a clear majority. Current Officers re-nominated and elected by clear majority are Vice President Dale Clement, AF1T, Treasurer Fred Stefanik, N1DPM, Secretary Mark Casey, K1MAP(ex-N1LZC). and Board Member Rae Bristol, K1LXD.

Ron explained the problem with the TransAtlantic Beacon as we had discussed at the earlier Board of Director's meeting. The envelope was passed and Ron reported \$140 toward the new beacon.

The next meeting date of Jan 3rd was approved.

It was voted to allot to Del, KD1DU, the slight additional funds, in order that he may have the Newsletter printed in his area, also having the printer do more of the chores involved in getting it out such as labeling, folding and stapling.

Ron proposed that the Newsletter position be a voting officer's one. This was passed as a constitutional change. We now have 5 Officers and 4 Board of Director's Members.

Walt, WA2ALV, brought up the proposal of advertising the club in QEX, possibly along with other VHF+ Weak Signal clubs in the Northeast. K1MAP motioned that we allocate \$52 for a 1/2 page advertisement, to be taken out at a time in the future to be decided by the Board. Our Treasurer, Fred, N1DPM, agreed that funds were available, and this was passed.

Art, W1TDS, proposed a tune-up night or two on 432 and up, before the January contest, and KD1DU will set up some dates for this.

Ron had several copies made of applicable contest rules and talked about this for a few minutes, so that there would be less confusion about rules for the Jan VHF event.

The floor was turned over to members who had brought show and tell projects and we heard from the following Amateurs:

AF1T, Dale, with a homebrew 10GHz transverter in a rugged case about the size of a mobile rig.

W1VT, Zack, with a self designed 10 watt small sized amplifier.

K2CBA, Judd, with a 10 GHZ dish and transceiver & tripod all built as one unit

KA1SUN, Eric, with a report of a successful GHZ experiment with Pete, K2AEP, through the Hoosac Tunnel in North Adams, Mass., (5 Miles), on Wideband. The liason on 446 MHz simplex wouldn't work but 10 GHZ was loud with only 20Mw!

WA1VVH, Harry, with his 10 GHZ. Transverter, also small enough for him to put in his coat pocket, climb the tower and operate with during the Sept. contest from near to top at 150+ feet above the ground!

KJ1K, Sigurd, brought N1FGY, Ed's, 10 Ghz transverter project in progress.

That was about it and the meeting went back to general social activity at about 3 PM. Everyone had a good time and the hall cleared at about 4 PM. 47 members were present at the meeting.

See you at our next meeting, Saturday, January 3rd, 1998 at 11AM for the Board and 1PM for the General Meeting, at the Harley Hotel, just off I-91 exit 49, Enfield, CT.

73

Mark Casey, K1MAP, Secretary

## **BOARD MEETING, NOV., 9, 1997**

The Board Meeting was opened by Ron, WZ1V at 11:30 AM.

Ron passed out a list of future events and proposed meeting dates. Upon certification by our new president the dates proposed are Jan. 3, March 14, May 23, July 19, August 22, and Nov 7, 1998

The VHF Conference is proposed for August 21-22-23, 1998, as the ARRL is holding their New England Convention at Boxboro, Mass on August 28-30, 1998.

The 2 meter TransAtlantic Beacon is off the air and it is Ron's opinion, that due to the age and condition of the main unit, we should build a new one. An envelope will be passed around during the main meeting for donations toward the cost of this.

Fred and Del proposed the use of a copy center near Del's QTH as this will eliminate the bottleneck of shipping the finished Newsletter to Fred for printing and mailing. The cost was increased \$18 at a printer near Del's but they were able to do more of the work involved for that slight increase in cost.

Walt, WA2ALV, brought up a proposal to advertise our club in QEX, perhaps in conjunction with the other area VHF+ Weak Signal clubs.. The ARRL gives a 50% discount to us and has run some blank pages recently. This would be a great communicator and may bring a few new members. Recent circulation was about 19,000 and our cost for a page is \$104, \$52 for 1/2 page. This will be brought up at the main meeting.

In attendance were:

KD1DU, WA2ALV, K1LXD, N2MSS, W1NWE, W1TDS, W1COT, WZ1V, N2LIV, N1DPM.

Mark Casey, K1MAP, Secretary

## ON THE BANDS

### BY RON KLIMAS WZ1V, FN31

November 17 was a great day for 2M meteor scatter. Here's excerpts of what some operators said about the Leonids meteor shower:

From: Bert - NS4W EM76 <ns4w@qsl.net> Wow, as of 1700z, 23 contacts 21 grids 12 NEW grids. I haven't worked this many new grids since '89.

From: "RayVeldran N4KWX FM08wf" <rrvn4kwx@mnsinc.com> One new state NEBRASKA & grid: K0SMEN10 - NICE 15 sec. burn!

From: W1LP@aol.com Good rocks from FN41 on Cape Cod. Many one minute "blue whizzers" All random contact except for K0MQS, and we completed in 3 minutes with a minute and 10 second burn. Best DX was W0SD at 1350 miles.

GMT	CALL	GRID
1439	WF9X	EN53
1459	W0SD	EN13
1504	K0GJX	EN35
1513	K0MQS	EN31
1606	NS4W	EM76
1618	W9ZIH	EN51

From: "Jason Baack N1RWY FN54no" <baack@maine.edu> All totaled it was 12 new grids and 6 new states!

TIME / DATE	STATION:	GRID:	DISTANCE:	
12:25	16/11/97 KBOVUK	EN34	1177	miles
10:53	17/11/97 KE8FD	EM89	795	miles
11:05	17/11/97 W9JN	EN54	982	miles
11:07	17/11/97 K4KAE	FM02	987	miles
11:42	17/11/97 K8BHZ	EN75	782	miles
12:09	17/11/97 NS4W	EM76	1002	miles
13:40	17/11/97 KF9WM	EN70	858	miles
14:13	17/11/97 K4HJE	EM96	836	miles
15:30	17/11/97 WF9X	EN53	993	miles
15:39	17/11/97 W8OUD	EM79	888	miles

From: "Roger W. Amidon, K2SMN FN20oj" <k2smn@dxcc.com> Leonids shower results at K2SMN (1200 watts, CC 18XL, FT726R):

1116Z	N0LIE	EM27
1232Z	KA9CFD	EN40
1237Z	N5LJL	EM26
1238Z	N0KQY	DM98 *1423 Miles!
1324Z	W0KRX	EN34
1332Z	W0SD	EN13
1419Z	K5YY	EM26
1441Z	WF9X	EN53
1443Z	K5SW	EM25

If you think it's impossible to work 6 Meter TE (Trans-Equatorial) mode openings from as far north as New England, think again: On the evening of November 26, Mick W1JJM from FN41 Rhode Island worked PY5CC at 22:47 on 50.110 mhz 5x7 followed by PY2XB and PY2DP. (With T/E flutter present on the signals). From FN41 on Cape Cod, Clint W1LP reported working PY5CC who was in from 2250Z to 0015Z. Clint was also able to work PY2XB on CW. PY5CC in GG54 > W1LP in FN41sr = 4840 statute miles!

Good 6 Meter Eskip single/double-hop opening on the eve of Dec. 9th.

I managed to work W5VY EL09, K0TVJ EN13, WA7FPO DM54, KD7GC DM33, and VE1EJM FN84. The FP5XAB GN16 beacon was in strong on 50.038. Peter <py5cc@sul.com.br> reported working W4's the same evening.

In the club member spotlight this month, I'd like to report that John N1MUW in FN32 is now QRV on 6, 2, 222, 432, and 1296 with high power and a new 100 foot tower. Look for John in the January contest. In other news, Paul K1WVX has passed the 275th gridsquare milestone on his 6 Meter VUCC and is up to 38 countries.

The WA2UMX FN23xc 222 MHz beacon is on the air! Steve Kostro N2CEI of Down East Microwave Inc. donated the 25 Watt 222 MHz PA kit to the cause, which I put together and married to their GLB exciter. The beacon was handed off at our last meeting to WA2ALV who delivered it to Jim WA2UMH, trustee of the 2 meter WA2UMX 144.290 beacon, who installed it at the same site. It runs continuously on 222.050 MHz with 30 Watts to a pair of Big Wheels at 80' atop 1620' ASL. Send WA2UMX/B reception reports To: mcknight@Capital.Net

In other beacon news, our W1RJA 2 meter beacon is temporarily QRT. The transmitter failed after just a few weeks of operation. Bob WA1ZPI has managed to repair it, but it can't be put back on the air until we solve an intermod problem at the site. It seems that the beacon was generating a product in the Cell Phone band as a result of the 144.282 mixing with RF from the UHF TV transmitter at the site. Both Bob and I have been extremely busy, and unable to find time thus far to troubleshoot the site. We welcome anyone expert with RF intermod problems to lend us a hand, please. I'd like to thank everyone at the last N.E.W.S. club meeting for pitching in the dollars to help fund this project. Additional donations were received from K1CA and W3EP to offset the initial installation costs, and we presently have \$140 available. You may contact either Bob or I via Email at rknott@wsbe.org or wz1v@connix.com if you'd like to help.

A reminder KB2ZVP FN22 runs a 6 Meter Net Tuesdays 7:30PM on 50.230. W2CCP FN32 runs a 2 Meter Net Tuesdays 8:00PM on 144.230. (KB2ZVP and W2CCP occasionally swap nets). Also, K2SMN FN20 runs an excellent net at 10:30am Sunday morning on 144.250. Don't forget to check into our Thursday night net on 144.250 starting around 8:30pm local, KD1DU net control (WZ1V alternate).

Time to tune up for the upcoming January 17-19 VHF SS contest, remember, every improvement that helps you also helps our club compete better collectively. Let's win the gavel again in '98! See you at the January 3 meeting and on the bands!

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 new Internet Webpage at <http://qsl.net/vhfnews> or subscribe to our NEWS VHF E-mail Reflector at [newsvhf@qth.net](mailto:newsvhf@qth.net) by Emailing [majordomo@qth.net](mailto:majordomo@qth.net) with the message `subscribe newsvhf`

73 and happy holidays, Ron WZ1V  
internet email: [wz1v@connix.com](mailto:wz1v@connix.com) 50 through 3456 MHz.

## **FROM THE PRESIDENT'S SHACK:**

Happy New Year to all! I am looking forward to a great year for the North East Weak Signal Group. I am eager to work together with my fellow officers, Board of Directors, and the members of the club. Many thanks to all for their support in my election as President. I hope to exemplify and advance the N.E.W.S. Group in all aspects of the weak signal field of Amateur Radio. I would like to offer recognition to our past President in 1997, Ron Klimas - WZ1V. Ron's duties went beyond the role of President and he deserves a very special thanks for all his efforts and achievements. I will look to him for his continuing assistance for the club.

I'd like to take this opportunity to offer some background on my radio experience. I have given various talks at many of the Hudson Division Club meetings, as well as the N.E.W.S. Group, and have had the honor to be invited to conduct the various Band Sessions at the Eastern VHF/UHF Conferences. In the past, I have acted as the Net Control Operator for an area radio club, participated in Field Day planning, and contributed articles for many club newsletters. In this month's N.E.W.S. Letter, I am beginning my multi-part series of articles on one of my favorite subjects, Gel Cell Batteries. This month's feature is a how to on buying Gel Cell batteries. As many of you know from working me, I am an avid VHF/UHF contester, and enjoy operating portable or roving throughout New England. I am active on 6 meters through 1296 and 10GHz portable.

To contact me through E-Mail, I can access n2mss@juno.com from almost any location I happen to be. I also have several other E-Mail accounts for different purposes as do many of you. If you ever need to send me an attached file, graphics, etc., please contact me at the juno account and I will forward you an address that will serve that purpose.

January spells C-Q C-O-N-T-E-S-T! It is once again time to gear up for the ARRL VHF Sweepstakes to be held the weekend of January 17-19. Your participation in this first contest of the new year is crucial since all scores submitted will be credited towards the N.E.W.S. Group. We must also not forget the importance of promoting activity on the bands. So get on the air, and send in your scores, be they great or small. For a complete run down on compliance with club participation, please refer to the President's Column in the November N.E.W.S. Letter. In the spirit of things, we will have a few of our very own 100K+ points scoring members say a few words on the subject at our meeting. In case you are wondering, I may be portable again for this contest. Last year was the first year I actually was concerned about frostbite, hi-hi. My job may take me back to New England that weekend, which means back to the Boston area with 10GHz. Fortunately, I gained lots of experience in that area during the 10GHz contest this past Fall. Remember to give the contest your best shot and support out N.E.W.S. Group club competition effort this January.

Hope the weather permits for a great turnout to the first meeting of the year on January 3. I look forward to seeing everyone there. Our featured speaker will be Paul, WB8TSL, who will talk about test equipment. I understand that he is very knowledgeable on this subject and anticipate a very informative presentation. Make sure to tell your friends about N.E.W.S. in '98. One of my goals as President will be to increase the awareness of the club and encourage new members to our ever growing base. Please also remember to renew your membership, if you haven't done so already.

73,  
Hank - N2MSS  
n2mss@juno.com

## **1998 N.E.W.S. VHF CALENDAR:**

- January 3, 1PM - 4PM 1998**  
**N.E.W.S. Group Meeting**
- January 17-19, 1900Z - 0400Z**  
**ARRL January VHF Sweepstakes**
- March 14, 1PM - 4PM**  
**N.E.W.S. Group Meeting**
- April 13 (Mon), 7PM - 11PM**  
**144-MHz Spring Sprint**
- April 21 (Tues), 7PM - 11PM**  
**222-MHz Spring Sprint**
- April 22, 2100Z**  
**Lyrids meteor shower**
- April 29 (Wed), 7PM - 11PM**  
**432-MHz Spring Sprint**
- May 9, any 5 consecutive hours from 6AM - 1PM**  
**902/1296/2304-MHz Spring Sprint**
- May 16-17, 2300Z - 0300Z**  
**50-MHz Spring Sprint**
- May 23, 1PM - 4PM**  
**N.E.W.S. Group Meeting**
- June 13-15, 1800Z - 0300Z**  
**ARRL June VHF QSO Party**
- July 11-1**  
**CQ World-Wide VHF Contest, 1800Z - 2100Z**  
**Internet 6 Meter DX Contest, 1800Z - 2400Z**
- July 19, 1PM - 5PM**  
**N.E.W.S. Group Meeting**
- August 1-2, 1800Z - 1800Z**  
**ARRL UHF Contest**
- August 12, 1540Z**  
**Perseids meteor shower**
- August 15-16, 8AM - 8PM**  
**ARRL 10-GHz Cumulative Contest**
- August 22-23**  
**Eastern VHF-UHF Conference**
- September 12-14, 1800Z - 0300Z**  
**ARRL September VHF QSO Party**
- September 19-20, 8AM-8PM**  
**ARRL 10-GHz Cumulative Contest**
- November 7, 1PM - 4PM**  
**N.E.W.S. Group Meeting**
- November 17, 1650Z**  
**Leonids meteor shower**

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

**N.E.W.S. GROUP SPECTRUM COORDINATION PLAN**  
**NORTHEAST U.S. & NORTH ATLANTIC REGION**

**144-148 MHZ. AUGUST 1997**

144.000-.050	EME (cw)
.050-.100	EME and CW weak signal
.100-.270	SSB and CW, and EME
.150	Packrats Weak Signal Net—Mon 8p—Philadelphia area *(Added 09-97)
.200	USB Calling Freq.
.250	Weak Signal Nets—EVHF, Sun 10:30a-TrentonNJ area, NEWS-Thu 8:30p-S.E.CT area
.260	Microwave Liason (USB)
.282	TransAtlantic Beacon—From Rhode Island—Pointed towards UK & France
.275-.300	Beacons
.300	USB Call Frequency—Europe *(Added 09-97)
.300-.500	Mixed use—SSB, CW, Satellite and AM & FM, in 20Khz. Channels
.340,.360,.380,.400,.420,.440,.460,.480	—No Digital, Packet, or Automatic Stations
.300-.325	Future Beacon expansion
.340,.360	ATV, Hang Glider and other Liason, FM, AM
.400	AM Call Freq.
.420,.440	Liason, AM, FM, SSB
.460	Microwave Liason (FM)
.480	Liason, AM, FM, SSB
.500-.900	Repeater Inputs
144.900-145.100	—Packet, FM, SSB, CW
145.100-.500	Repeater Outputs
.500-.800	Miscellaneous, Experimental
.800-.000	Satellite
146.000-.400	Repeater Inputs
.400-.600	Simplex (mostly FM)
146.520	National Calling Freq.—FM
.600-.000	Repeater Outputs
147.000-.400	Repeater Outputs
400-.600	Simplex (mostly FM)
.600-.000	Repeater Inputs

The foregoing plan was approved by majority vote at the NEWS meeting held on August 23, 1997. NEWS will be glad to consider changes and additions. The NEWS group is also looking for both input for and approval of, this plan, from the Mt. Airy VHF Radio Club and the Rochester VHF Group, and from other coordination bodies. The NEWS Group intends to continue the responsibility of updating and improving Bandplans and Frequency Coordination of 50 Mhz and higher Amateur Allocations, as had been the charge of the Northeast VHF Association, incorporated into NEWS in August, 1996.

73,  
Mark Casey, K1MAP, (ex-N1LZC)  
Secretary, Northeast Weak Signal Group (NEWS)

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

**PRESIDENT:** N2MSS, Hank Lopez, 34 Bell Lane, Tappan, NY 10983, FN31aa Email: n2mss@juno.com  
Home: 914-359-6977 Work: 914-644-4771  
ACTIVE ON: 6, 2, 222, 432, 903, 1296, 10 GHz.

**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:** K1MAP, Mark Casey, 303 Main Street, Hampden, MA. 01036, FN32 Email: map@map.com  
Home: 413-566-2445  
ACTIVE ON: 6, 2, 222, 432, 903, 1296, 2304, 3456, 5760, 10 GHz

**TREASURER:** N1DPM, Fred Stefanik, 50 Witheridge Street, Agawam, MA 01030, FN32 Email: freddpm@juno.com  
Home: 413-786-7943, Work: 413-569-0116 ext.211  
ACTIVE ON: 6, 2, 222, 432, 903, 1296, 2304, 3456, 5760

**EDITOR:** KD1DU, Del Schier, 126 Old W. Mountain Rd., Ridgefield, CT 06877, FN31fi Email: kd1du@amsat.org  
Home: 203-431-4233, Work: 203-637-3621  
ACTIVE ON: 6, 2, 222, 432, 903, 1296, 2304, 10 GHz.

## BOARD OF DIRECTORS:

**K1WHS:** Dave Olean, RFD 1 Box 282 Poplar Hill Road, West Lebanon, Me. 04027, FN43 Email: k1whs@worldpath.net  
Home: 207-658-9076, Work: 207-658-7758  
ACTIVE ON: 6, 2, 222, 432, 903, 1296, 2304, 3456, 5760, 10Ghz

**K1LXD:** Rae Bristol, 328 Mark Drive, Coventry, CT 06238, FN31 Email: rbristol@snet.net  
Home: 203-742-8650,  
ACTIVE ON: 6, 2

**N1MUW:** John Denardo Jr, 628 South Hampton Rd., Westfield, MA 01085, FN32 Email: jad44o@aol.com  
Home: 413-572-9072, Work: 413-562-8242  
ACTIVE ON: 6, 2, 222, 432, 1296

**WA2TEO:** Jeff Klein, 11 Farmview Cir., Trumbull, Ct. 06611, FN31 Email: JDKLEIN@hewitt.com  
Home: 203-452-7656, Work: 203-852-1100  
ACTIVE ON: 6, 2, 222, 432, 903, 1296, 2304, 3456

## NEW W3CCX MICROWAVE BEACONS ON THE AIR

The three new Pack Rat Beacons were installed and turned on by our Chief Field Engineer (N3DQZ) at high noon yesterday, 12/16/97. Large signals were heard at AA2UK, N3AOG and W3RJW. Pass the word.

W3CCX/B  
3456.220 MHz 5 watts to 16 Slot Waveguide Antenna  
5760.200 MHz 5 Watts to 32 Slot Waveguide Antenna  
10368.200 MHz 0.5 Watts to 32 Slot Waveguide Antenna

FM29JW, Center City, Phila., 500 feet above street level.

Other W3CCX/B Beacons: 432.295MHz, 903.072MHz, 1296.251MHz, 2304.037MHz

If you hear the new beacons, send reports to:

Ron Whitesel W3RJW (ex WA3AXV)  
at rwhitsel.warm@veda.com

## K1TR 903 BEACON BACK UP

My 903.065 MHz beacon, located in FN42FM, was down or operating in an impaired state for the last couple of months. It has been repaired and re-installed on 12/15.

I would appreciate any signal reports.

Ed, K1TR  
esparsons@lucent.com

## A CALL FOR INFO BY BRUCE WOOD N2LIV

A recent issue of the North Texas Microwave Societies "FEED-POINT" newsletter indicated that Kent Britian, WA5VJB will be editing a column in "CQVHF" magazine. The column will alternate monthly between microwaves and antenna topics. In addition, Kent is a long term editor of the "FEEDPOINT" newsletter and contributes information to a MICROWAVE USA column in "DUBUS" magazine. These three sources not only provide a wealth of information to us, but allow us various avenues for publishing articles and disseminating information. These publications are what we help make them to be. Articles, photos, news and operating events, etc. are all welcome by him. They do not have to be exclusively technical articles. So please send him your 50 MHz and up info to him at 1626 Vineyard, Grand Prairie, TX 75052-1405 or e-mail at kbritain@johnstonetech.com.

73,s Bruce N2LIV

## APRS 144.390 POSITION STATEMENT

Just a comment from one who hasn't had the pleasure of using APRS, but does, on a regular basis, use the Weak Signal portion (144.0-.3) and this region's liason/experimental & miscellaneous area (144.3-.5). Many of us also used the 145.5-.8 segment for simplex FM in the past. With the advent of automatic digital stations in this area, most voice users were driven off. The users who have moved to the 144.3-.5 area include FM simplex, which is, to the surprise of many, used for long-hauls of over 100 miles, AM operators, whose calling frequency here on the East coast has been and continues to be 144.400, sideband op's, and FM liason stations for ATV (144.340,.360,.380), Hang Gliding (same as ATV), Microwave operation (144.460), and many others.

Most Weak Signal op's support both the rights and needs of digital users. Indeed, digital should be able to be coordinated in the repeater portion in addition to the areas they reside in already. The further problem comes in when automatic digital station do not recognize transmissions of another mode. I can't tell you how many times I've had a digital station start up in the middle of a conversation on our local simplex freq. of 145.650. With the exception of a typical calling pile-up, no decent operator would start transmitting when another station is engaged in a transmission already. We'll be glad to help digital op's get a permanent place for APRS and digital, but PLEASE consider the stations transmitting that digital doesn't hear.

The North East Weak Signal Group/Northeast VHF Association Bandplan (which can be found at the NEWS Web Site "uhavax.hartford.edu/newsvhf"), for the North Atlantic area asks that automatic, digital and repeater operations be kept above 144.500. If APRS moves to 144.390, no doubt a load of digital stations will follow APRS into this area. One packet group in the Maryland-Virginia area has already proposed use in the 144.300-.500 portion, but have not received the approval of any Coordination body, and will hopefully reconsider its move.

We have enough spectrum on 2 meters for everyone, we just have to all get together and find out what each group needs and give and take a little bit. Best of luck to TAPR and it's membership in their drive for a dedicated frequency. Many of us support your actions, but at a frequency above 144.500.

Sincerely,  
Mark Casey, K1MAP

Editor's note: I operate an APRS wide area digipeater on 145.790 presently and I have no intention of moving it to 144.390 as I agree with Mark. I will simply shut it down.

Del Schier, KD1DU

## POWER DIVIDER INFO FROM VHF@W6YX.STANFORD.EDU

You didn't mention whether you wanted info for 2, 4 or 6 way power dividers.

For a divide by 2, the ratio of the ID of the outer tube (square) to the OD of the inner tube (round) is 3.06 for a 1/2 wave length divider. For a divide by 4, the ratio of ID/OD is 2.18, for a divide by 6 the ratio is 1.875. If you use common hardware store 1" square tubing with 1/16" wall thickness, found in US stores, the inner conductor should be 9/32", 13/32", and 15/32" respectively. These ratios and dimensions are for 50 ohm systems, i.e., 50 ohms in and 50 ohms out. These sizes are to the nearest 1/32".

The length of the center tube (conductor) between the center pins of the output connectors (type "N", I hope), should essentially be free space 1/2 wavelength. This can be easily calculated by:  $150/\text{freq}(\text{MHz}) = \text{length in meters}$ .

Example:  $150 / 144 = 1.4166$  meters. Divide by 39.37 for inches, multiply by 100 for centimeters. You will need to add a bit more length so that you can drill holes to solder the center pins of the outer connectors through. These dimensions will give a return loss of > 25dB.

I've made this fairly basic, however others have asked similar questions in the past. BTW, hobby store brass tubing comes in 1/32" diameters and can be spliced using the next smaller diameter. Also 2M pwr. div. can be used on 432, and 432 dividers can be used on 1296 - this is one way to shorten your lossy phasing lines.

I hope this helps, GL and 73, Chuck/W7CS, Z COMM (mfg of pwr dividers and phasing lines)

.....REPLY:

The "K&S" hobby brass is very good for many kinds of home-made applications such as sliding probes for cavities etc. For power dividers, it can be obtained in 3ft lengths as well as the more common 1ft.

Silver-plating the brass is a good idea, to prevent the surface finish from turning black and lossy after a few years.

One more tip about power dividers: avoid very high division ratios -the inner diameter becomes very critical to get a low VSWR. Also the loaded Q increases, and therefore the losses (not a lot, but possibly significant for EME). Instead of a 4-way quarter-wave divider, it's better to use a 2+2-way back to back ("half-wave").

73 from Ian G3SEK      Editor, 'The VHF/UHF DX Book'  
'In Practice' columnist for RadCom (RSGB)  
<http://www.ifwtech.demon.co.uk/g3sek>

## **GEL CELL BATTERIES: PART I**

### **“HOW TO BUY”**

#### **BY HANK LOPEZ, N2MSS**

I wrote this article to help clear up some of the confusion about buying batteries at hamfests. This is a collection of my personal experiences and opinions that might give you some ideas so that you can make the final decision. Some of the factors to consider are:

**AGE:** Look for a date code, usually stamped or melted into the case. The date code should be obvious, but may be encoded. For example, the numbers “9012” might mean that the battery was manufactured in December 1990. Ask the vendor how old the battery is, but take any answer with a bit of skepticism. I have actually found date codes on batteries and decided to ask the vendor anyway, just to see what kind of answer I would get. The answers can be surprising - many vendors simply do not know what a date code is, or just lie about it!

**LOOKS:** Cleanliness can give a clue as to how the battery has spent its life so far. Dust, dirt, and grease can indicate that it has had a rough life. Carefully examine the battery for damage: are there any cracks, dents, or deep scratches. An impact strong enough to damage a battery case can rearrange the battery's insides, ruining it. Finally, examine the terminals for arc burns, and if they have been unsoldered, look for burn marks on the case just in case a very high wattage iron (or torch) was used - both can cause damage that is difficult to detect.

**TEST:** Bring a load! If the vendor is honest, he/she won't mind letting you run a load test. At the least, bring a light bulb and see what you get. You can also use an HT, with the proper connections. Don't forget to bring a voltmeter, to watch the battery voltage under load - if it drops rapidly, the battery is spent. Ideally, (best case) you should test a battery at 3 times its Amp-hour rating for 15 seconds. If the battery is good, it will stay above 9 volts. Smaller loads should draw the voltage down less. Make sure you have permission before testing, and try not to annoy the vendor with crazy requests.

A Gel Cell battery may become permanently damaged if it is allowed to discharge deeply, and the damage becomes worse every day the battery remains uncharged. A few months at 11 volts or less will reduce the battery life greatly, eventually killing the battery. I personally would NEVER buy a battery that reads a resting voltage less than 11.8 volts! This is my (liberal) rule of thumb. You might want to be a little more conservative, perhaps 12.2 volts. A fully charged battery should measure 12.65 volts, and every 0.2 volts less means 25% less charge. Depending on the type of charger and how you charge your gel cells might have something to do with your final decision.

Here is a case: suppose that you are testing a few batteries and they all seem to show a resting voltage of 9 to 10 volts. You bring one home and charge it. While charging, all signs of full survival are seen i.e., the battery takes the charge up to its 14.4 volt max rate. But you find that when you remove it from the charger it goes down to the original 9 to 10 volt range. Well, this shows that this battery is no good, because one or more of the cells have gone bad. Remember there are 6 cells that make up the 12v battery, each one providing approximately 2.1 volts.

Another case: I accidentally let two batteries that I keep in parallel to run my packet station run down to 3 volts. This is not a good thing to do, since the battery will not forget you did this to it. I put them on my charger and, because these cells were in extremely good shape, they were up and running in a few days. Since they were at the low voltage for less than two days, they probably got very little damage, and in most cases they should come back up most of the way.

**PRICE:** Eventually you will want to buy one, assuming it tests OK. A 6 or 7 Amp-hour battery should cost between \$10 and \$15. Higher capacity (15 to 24 Amp-hour) still should never cost more than \$30. After all, these batteries are usually not new, and they should still have plenty of life in them for radio applications.

I do hope that you find these guidelines and suggestions useful in your search for backup Gel Cell batteries. If you have any comments please forward them to [n2mss@juno.com](mailto:n2mss@juno.com) or call book address. More to come in Part II.

## **TRANSATLANTIC BEACON FUND**

We wish to thank the following members for their kind donations totaling \$140 for the purpose of rebuilding the 2 meter TransAtlantic Beacon, W1RJA, on 144.282, located near Westerly, RI, FN41.

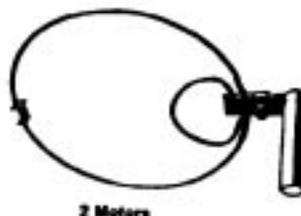
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73 Mark Casey, K1MAP  
Secretary

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