



# N.E.W.S. LETTER



The Publication of the North East Weak Signal Group

MAR 2000

VOLUME EIGHT

ISSUE TWO

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

## CURRENT OFFICERS

Secretary: N1GJ George Jones  
Treasurer: N1DPM Fred Stefanik

## NEXT MEETING

THE NEXT MEETING IS ON SATURDAY MARCH 11TH, 1:00 PM AT THE RADISSON HOTEL  
ALL ARE WELCOME TO THE DIRECTORS MEETING AT 11:30 AM (NOTE NEW TIME  
NEXT MEETING WE'LL HAVE A TECHNICAL PRESENTATION BY A MYSTERY SPEAKER

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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  
K1UHF OR W1COT 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://uhavax.hartford.edu/~newsvhf>

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## FROM THE VIRTUAL SHACK OF KB1VC

Well, I got wiped out in the January contest. How did you do? Water, kinks, or acorns, I don't know what it is, but I've got something in the feedline on both 2m and 432. Once the weather gets a little better I'll climb up and figure out how large a check to write to 'WZG.

The DSP10 is coming along. Interesting design. I think I've got all the components now. Everything was available from somewhere, but some parts required volume purchases. I've become convinced that the right way to build this kit is to get in on one of the group parts purchases. (See the DSP10 mailing list or web page for information -- The web page is <http://www.proaxis.com/~boblar/dsp10.htm> and is a must-read for anyone building the radio.)

Next meeting we'll have a technical presentation. As I write this, I'm not sure who is presenting, but there will be something.

Also note that we'll have a duct-tape auction again. Remember, the rules are pretty simple.

1. Bring two items -- one hunk o' junk, one hunk o' goodstuff.
2. Tape them together.
3. I will auction the two pieces as if they were one.
4. You may donate proceeds to the club or take them for yourself.
5. All unsold items leave with you.

As for technical presentations... When was the last time YOU stood up in front of the meeting? Isn't it about time. How about the guy who sits next to you. Didn't he bring some neat widget that he'd built to one of the meetings. Remember how he showed it around during one of the breaks. Why didn't he just stand up and talk about it? Poke him in the ribs at the next meeting and try to convince him to give a technical presentation.

73 de kb1vc  
Linux Rules!  
Linux on Alpha Rules Bigtime!

## NEWS GROUP CONSTITUTION

The NEWS group constitution is on the web for members to read at: <http://www.qsl.net/k1uhf/NEWS/NEWSCons.pdf>  
To read; type in the URL exactly as shown (case sensitive) and read with Adobe Acrobat Reader, free on the web.

Due to the length it could not be in this NEWSletter.

Marc Casey typed it up with all the recent changes and a revision history.

Marc Casey, K1MAP  
Del Schier, K1UHF

## SECRETARY'S REPORT OF THE NEWS BOARD MEETING 1-8-2000 GEORGE JONES, N1GJ

President Matt Reilly, KB1VC, opened the Board meeting at 11:22 AM. All of the newly elected officers were present.

Meeting dates were discussed for the year 2000 and the following dates were selected:

|          | 1999 Date | 2000 Date | Alternate      |
|----------|-----------|-----------|----------------|
| January  | 2 Jan     | 8 Jan     | none           |
| March    | 13 Mar    | 11 Mar    | 18 Mar         |
| May      | 22 May    | 6 May     | 22 or 27 May   |
| July     | 17 Jul    | 15 Jul    | Any other Sat. |
| August   | 28 Aug    | 26 Aug    | none           |
| November | 6 Nov     | 4 Nov     | 18 Nov         |

All members attending the Board meeting voted in favor of the dates selected.

In order to make the July meeting more enjoyable temperature-wise, a site will be selected that offers some amount of shade. It should preferably be a park in the local (Enfield) area. Tom, WINWE, will research the problem and report back at the next meeting with a list of appropriate sites.

A short discussion followed, on electing officers for the Board for a period of two years rather than the one year currently specified in the By-laws. It will be put up for a vote at the March general meeting, after notifying the general membership in the March NEWS Letter. If approved, the By-laws will be changed accordingly.

By vote of the members present, it was agreed that the meeting time for Board meetings will be changed to 11:30 AM from the current 11:00 AM, starting with the March meeting. Del, K1UHF, will put a note on the subject in the next NEWS Letter.

The meeting was adjourned at 11:44 AM.

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ABOVE NET EVERY THURSDAY NIGHT AT  
8:30 P.M. LOCAL 144.250  
K1UHF OR W1COT NET CONTROL**

## SECRETARY'S REPORT OF THE NEWS

MEETING 1-8-2000

GEORGE JONES, N1GJ

The general meeting was called to order by President Matt Reilly, KB1VC, at 1:00 PM. Attendees introduced themselves and gave a general description of their plans for operating in the ARRL January 2000 VHF contest.

Bruce, N2LIV, reported that the Northeast VHF/UHF Conference will be held on 25, 26 and 27 August at the Radisson (Hartley) Hotel in Enfield, CT. More information will be coming at a later date. There is a conflict with the ARRL New England Division Convention in Boxboro, MA but it was decided to go ahead with our date anyway. Bruce also asked that papers be submitted. The Conference Committee will accept shorter papers, 30 minutes or so, if they can be fit into the time schedule.

Paul, W1GHZ, reminded the group that they should start thinking about the Millennium Microwave Contest being sponsored by the NEWS Group. Some folks have already started making contacts on 900 MHz and above, that count.

President Reilly reported that the NEWS Group will again enter the club competition in the ARRL January VHF contest. Please send in your results to the League and indicate that your score should also be included under the NEWS Group in the club scores.

A general discussion followed on the new FCC license classes. The FCC NPR should be out this spring. The number of new license classes will be reduced to three-Tech, General and Extra with a maximum code speed of 5 WPM. Be on the lookout for information on Q/A pools and upgrade rules. Dale, AF1T, will look into ways that NEWS Group members can influence new question pools. He'll report back on this issue.

Bert, N2YYU, gave a talk on some VCO's that he has been analyzing. He asked for any inputs that others might have. Bert has been using some computer analysis programs to dig into its' operation at 10 GHz. To get a handle on things he has made up some lower frequency circuit boards that he fabricated. His signal generator works better at 1 GHz.

President Reilly led a discussion on changing the term of office for officers in the club, from one year to two. A notice will be placed in the next issue of the NEWS Letter to let members know the details. A vote will be taken at the March meeting. The discussion will also include the possibility of term limits for the office of president.

Fred, N1DPM, gave a slide presentation on the NCII limited Multiop operation in the last three September ARRL VHF Contests. You had to see the views from their location to believe it. There were some interesting ideas for anyone contemplating a field day type of operation.

The meeting was adjourned at 3:05 PM.

## NEWS GROUP OFFICERS AND BOARD

MEMBERS FOR YR. 2000.

GEORGE JONES, N1GJ

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# A STIFF GRID-BIAS SHUNT REGULATOR FOR THE AM-6154/6155 AMPLIFIERS BY STEVE HARRISON, KOXP

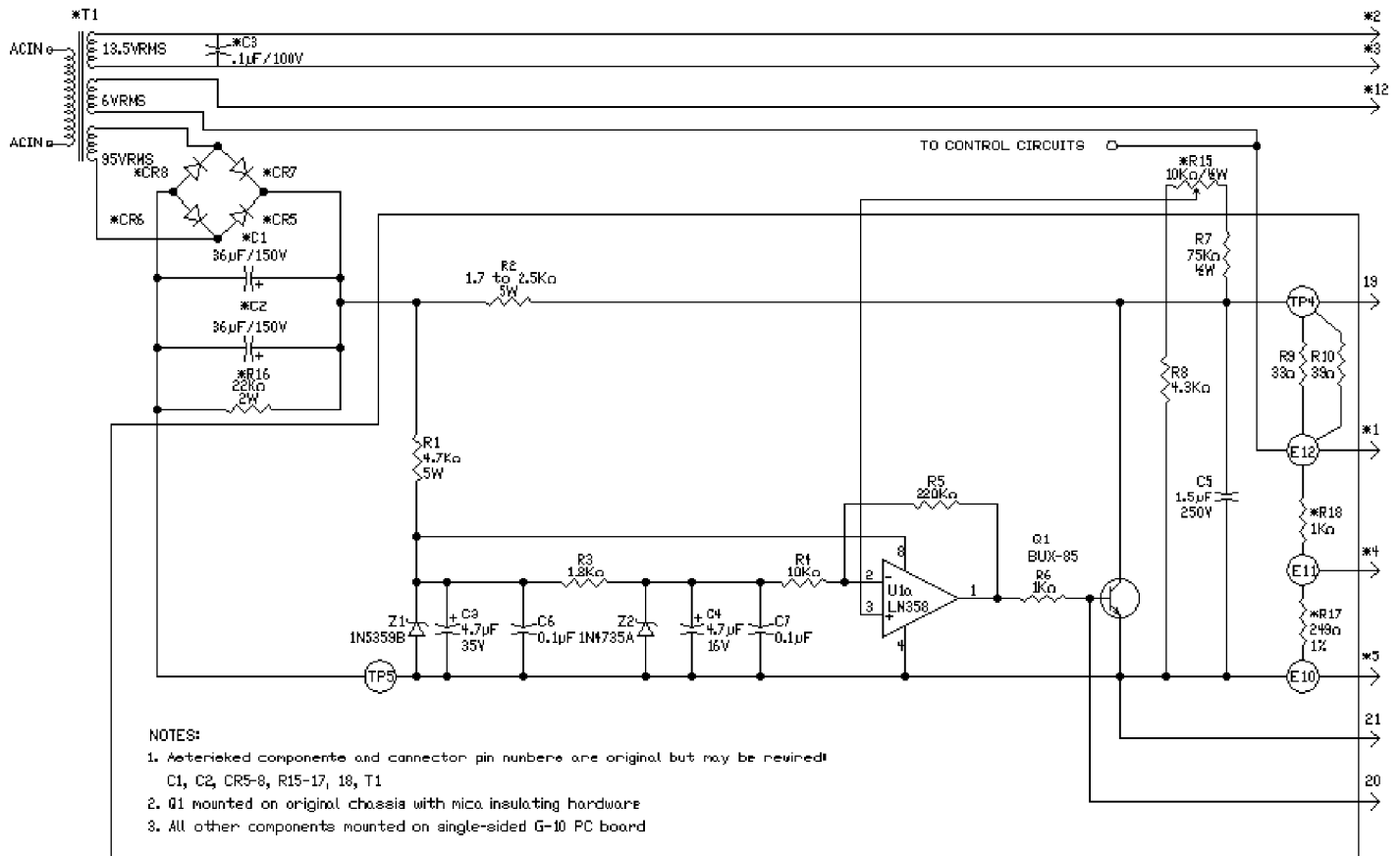
Most tetrodes are easily driven into drawing grid current, causing the control grid bias voltage to be driven further negative, resulting in the tube being driven into less-linear class B and even class C. More-negative grid bias also raises the drive power requirement, making it even easier to draw grid current. The typical adjustable grid bias regulator consists of a zener diode shunted by a potentiometer. The 4X150-series tetrodes typically require a grid bias of between -50 and -80 volts, and the zener voltage most-commonly used is 100 or 105 volts. Thus, there is a differential voltage of 20 to 50 volts between the control grid and the zener diode itself. Most often, a 10K ohm potentiometer is used to adjust the bias voltage, which results in a resistance of between 2000 and 5000 ohms in series with the grid to the zener-regulated source. If the grid current is just 1 milliampere, Ohm's Law shows that the voltage developed between the grid and zener will be between 2 and 5 volts, a barely-acceptable variation. If the grid current is 5 milliamperes, the voltage difference between the grid and zener will rise to between 10 and 50 volts, clearly a very undesirable state of affairs.

Some have replaced the zener/shunt-potentiometer with an adjustable series-pass transistor regulator, which decreases the positive source impedance considerably. However, as with the screen grid, there are times when it is possible for the control grid to SOURCE grid current (negative grid current), driving the bias voltage more

positive toward the cathode potential, resulting in a reduction of cutoff bias, much higher cathode current draw, and in an extreme case, destruction of the tube due to a runaway condition. I have seen this runaway condition occur with several 8930 tubes of unknown vintage when operated at the 400 watt output level on 432 MHz, and the experiences were directly responsible for my decision to utilize a shunt regulator. The circuit presented here was originally developed and installed in a homebrew 4CX300A amplifier some years ago and bears considerable similarity to the shunt regulator circuit recently introduced by G3SEK and G4JZQ, the primary differences being the use of a non-frequency-compensated op amp and a silicon bipolar high voltage transistor as the shunt element instead of a MOSFET. Due to space limitations in this NEWSletter, I have omitted a detailed theory of operation and installation of the regulator within the AM-615x amplifiers. A more-comprehensive description is available from myself upon request.

All component values shown on the schematic are generally non-critical except that the three resistors in series across the output of the shunt regulator should be chosen to limit the sampled output voltage from the potentiometer to no more than the op amp's VCC voltage, which can be anything from a few volts to the maximum rated single-sided operating voltage of the op amp. The 75K/10K pot/4.3K resistor values shown provide an output voltage range of between about -32 and -120 volts. The dropping resistor between the unregulated bias supply output and the shunt transistor should not be smaller than the suggested 1.7K ohms or the current load on the unregulated bias supply will be excessive. The value of this

CONTINUED ON PAGE 8



## EASTERN VHF/UHF CONFERENCE AUGUST, 2000

The 26th annual Eastern VHF/UHF Conference will be held on August 25, 26 & 27 in the Radisson Hotel in Enfield, Ct. This is the same location as last year although the hotel was named the Harley Hotel at that time. A Conference Proceedings will once again be published by the ARRL. Speakers and articles are welcome. Please contact Bruce Wood, N2LIV at [bdwood@erols.com](mailto:bdwood@erols.com) if interested or any questions. Further info to follow as available. This year we have a conflict with the Boxboro Convention which will be held on our weekend. We have used this same weekend, the 4th weekend in August for 6 years now since 1994.

Bruce N2LIV conference chairperson

The Conference Flea Market will be held Sunday Aug 27 @ 8am for both buyers (\$3) and sellers (\$8) Please contact Mark Casey, K1MAP for info 413-566-2445, [map@map.com](mailto:map@map.com)

Thanks & 73 Mark

Mark Casey, K1MAP, PO 624, Hampden, MA. 01036 FN32sb  
100Khz-10Ghz

## TREMENDOUS WEB ARTICLE ON F2 PROPAGATION BY PAT, WA5IYX FORWARDED BY RON KLIMAS, WZ1V

From: [pjdyer@swbell.net](mailto:pjdyer@swbell.net)  
Date: Wed, 02 Feb 2000 09:43:01 -0600  
Subject: December 1974 ham radio magazine article  
Reply-to: [pjdyer@swbell.net](mailto:pjdyer@swbell.net)

I've finally finished creating an on-line version of my December 1974 ham radio magazine article that dealt with the VHF effects of Solar Cycle 20 here. Considering how much superior Cycles 21 and 22 turned out, some of it seems almost "quaint" by comparison!

<http://home.swbell.net/pjdyer/hr/hr7412a.htm>

I also soon hope to put on there versions of my 1964-1970 50-MHz Es articles that are cited in this December 1974 one.

73, Pat - WA5IYX

Editor's note: This article was too extensive to publish here.

## NEWS CALENDAR BY RON KLIMAS, WZIV

March 11, 1PM - 4PM - N.E.W.S. Group Meeting  
April 22, 0920Z - Lyrids meteor shower  
May 4, 2350Z - e-Aquarids meteor shower  
May 6, 1PM - 4PM - N.E.W.S. Group Meeting  
May 12-13 - Rochester NH Hosstraders Hamfest  
May 19-21 - Dayton Hamfest  
June 10-12, 1800Z - 0300Z - ARRL June VHF QSO Party  
July 15, Noon - 4PM - N.E.W.S. Group Meeting  
August 5-6, 1800Z - 1800Z - ARRL UHF Contest  
August 12, 0400Z - Perseids meteor shower  
August 19-20, 8AM - 8PM - ARRL 10-GHz Cumulative Contest  
August 25-27 - Eastern VHF-UHF Conference  
September 9-11, 1800Z - 0300Z - ARRL Sept. VHF QSO Party  
September 16-17, 8AM-8PM - ARRL 10-GHz Cum. Contest  
November 4, 1PM - 4PM - N.E.W.S. Group Meeting  
November 17, 0750Z - Leonids meteor shower  
December 13, 2140Z - Geminids meteor shower

## VLOG DE EA6VQ UPDATED ! BY DEL SCHIER, K1UHF

The last issue I did a review on this software and I am very happy with it. It was missing one feature I wanted. VQLog has been updated to include tracking awards including WAS, one feature I wanted. It really is the best VHF weak signal logging program out there, I have tried them all.

73, Del K1UHF

## TID BIT

A member of the NEWS Group received a distinguished award from the North Texas Microwave Society - The Brass Balls Award for requesting over 2000 chip components of 80 different values from their chip bank and only sending \$1 to cover shipping costs. And he wasn't from New York.

From, Bruce, N2LIV

## PCB LOG PERIODIC ANTENNAS

Kent Britain, WA5VJB of the North Texas Microwave Society is making up a large number of PCB Log Periodic antennas that work from 900-2600 MHz and a second version from 2.1-6GHz (currently being Beta Tested). These make a quick 3 Band rover antenna, or a test antenna, or a dish feed. If anyone is interested please contact Kent @ [wa5vjb@flash.net](mailto:wa5vjb@flash.net). They are \$12 each including shipping. If there are a number of NEWS members interested we could make a group purchase to make things easier for Kent in shipping and handling. If interested please contact me.

Bruce N2LIV [bdwood@erols.com](mailto:bdwood@erols.com)

# JANUARY 2000 VHF SWEEPSTAKES RUMORED SCORES

## DE MATT REILLY, KB1VC

| CALL     | GRID  | NEWS | CLS | SCORE  | 50     | 144    | 222    | 432    | 903   | 1.2   | 2.3   | 3.4  | 5   | 10  | 24 | LHT |
|----------|-------|------|-----|--------|--------|--------|--------|--------|-------|-------|-------|------|-----|-----|----|-----|
| AF1T     | FN43  | Y    | S   | 64954  | 97/25  | 130/21 | 49/14  | 61/15  | 14/6  | 21/6  | 7/3   | 1/1  | -   | 5/3 | -  | -   |
| K0XP     | FN42  | Y    | L   | 12850  | -      | 109/24 | 20/10  | 54/16  | -     | -     | -     | -    | -   | -   | -  | -   |
| K1DY     | FN54  | N    | S   | 43442  | 70/31  | 112/30 | 36/18  | 36/14  | 8/6   | 12/8  | -     | -    | -   | -   | -  | -   |
| K1FO     | FN31  | Y    | S   | 48150  | 107/28 | 215/27 | -      | 160/20 | -     | -     | -     | -    | -   | -   | -  | -   |
| K1GX     | FN31  | Y    | S   | 140672 | 115/28 | 214/32 | 75/18  | 100/18 | 29/11 | 48/12 | 9/6   | 4/2  | 1/1 | -   | -  | -   |
| K1JT     | FN20  | N    | S   | 77738  | 236/43 | 213/20 | 83/15  | 106/16 | -     | -     | -     | -    | -   | -   | -  | -   |
| K1LPS    | FN34  | Y    | S   | 15870  | 31/13  | 63/25  | 27/14  | 29/12  | 4/3   | 2/2   | -     | -    | -   | -   | -  | -   |
| K1RZ     | FM19  | N    | S   | 218946 | 146/48 | 231/38 | 65/24  | 106/29 | 35/14 | 44/16 | 16/10 | -    | -   | 5/3 | -  | -   |
| K1TEO    | FN31  | Y    | S   | 465535 | 358/68 | 407/51 | 120/33 | 170/35 | 44/17 | 59/20 | 16/5  | 11/5 | -   | 1/1 | -  | -   |
| K1TR     | FN42  | N    | S   | 4704   | 25/8   | 44/10  | 13/6   | 26/8   | -     | -     | -     | -    | -   | -   | -  | -   |
| K1UHF    | FN31  | Y    | S   | 35445  | 91/17  | 144/34 | 37/14  | 24/12  | 5/3   | 6/3   | 1/1   | -    | -   | 1/1 | -  | -   |
| K1WVX    | FN31  | Y    | S   | 4901   | 39/12  | 50/9   | 10/3   | 18/3   | -     | 6/2   | -     | -    | -   | -   | -  | -   |
| K2SMN    | FN20  | N    | S   | 152421 | 206/44 | 231/34 | 79/22  | 85/22  | 30/9  | 49/10 | -     | -    | -   | -   | -  | -   |
| K2TER    | ROVER | N    | R   | 108135 | 107/18 | 178/20 | 69/8   | 114/11 | 24/4  | 31/6  | 18/4  | 11/4 | 8/4 | 3/2 | -  | 3/3 |
| K2UOP    | FM09  | N    | S   | 52200  | 77/28  | 103/33 | 37/19  | 44/17  | 9/7   | 10/8  | 4/4   | -    | -   | -   | -  | -   |
| K3DNE    | FM19  | N    | S   | 145768 | 124/34 | 207/36 | 70/24  | 102/25 | 33/15 | 38/18 | -     | -    | -   | -   | -  | -   |
| K3LXD    | FM19  | N    | S   | 13750  | 53/13  | 78/14  | 23/10  | 35/11  | -     | 7/2   | -     | -    | -   | -   | -  | -   |
| K4RTS    | FM08  | N    | S   | 19596  | 31/13  | 61/17  | 24/12  | 30/13  | 9/6   | 12/8  | -     | -    | -   | -   | -  | -   |
| K5MA     | FN41  | N    | S   | 70599  | 159/34 | 192/25 | 67/20  | 107/22 | -     | -     | -     | -    | -   | -   | -  | -   |
| K5VH     | EM00  | N    | S   | 1      | 1/1    | -      | -      | -      | -     | -     | -     | -    | -   | -   | -  | -   |
| K6PVJ    | CM87  | N    | L   | 2236   | -      | 62/6   | 22/4   | 33/3   | -     | -     | -     | -    | -   | -   | -  | -   |
| K8BGZ    | FN41  | Y    | S   | 1206   | 43/13  | 12/3   | -      | 6/2    | -     | -     | -     | -    | -   | -   | -  | -   |
| K8EB     | EN73  | N    | L   | 81389  | 162/56 | 175/49 | 35/21  | 66/25  | -     | -     | -     | -    | -   | -   | -  | -   |
| K8TQK    | EM89  | N    | S   | 116982 | 146/60 | 143/55 | 40/28  | 59/33  | 10/7  | 13/8  | 3/3   | -    | -   | -   | -  | -   |
| K9KL     | EN64  | N    | S   | 71632  | 172/64 | 118/42 | 27/16  | 42/18  | -     | 14/8  | -     | -    | -   | -   | -  | -   |
| K9RQ     | EN61  | N    | S   | 4635   | 18/11  | 53/24  | -      | 16/10  | -     | -     | -     | -    | -   | -   | -  | -   |
| K9YR     | EN52  | N    | S   | 16864  | 67/24  | 79/20  | 21/6   | 42/12  | -     | -     | -     | -    | -   | -   | -  | -   |
| KA1ZE    | FN21  | Y    | S   | 147555 | 86/22  | 177/32 | 70/25  | 77/20  | 30/10 | 40/13 | 18/6  | 12/5 | 2/2 | -   | -  | -   |
| KA9WBT   | EN62  | N    | R   | 11340  | 33/8   | 65/12  | 15/5   | 30/7   | -     | 16/7  | -     | -    | -   | -   | -  | -   |
| KB0LGB   | EN54  | N    | S   | 2204   | 42/27  | 16/11  | -      | -      | -     | -     | -     | -    | -   | -   | -  | -   |
| KB0NES   | EN34  | N    | S   | 408    | -      | 28/2   | 12/2   | 8/2    | -     | -     | -     | -    | -   | -   | -  | -   |
| KB0QGT   | ROVER | N    | R   | 7527   | 22/5   | 47/11  | 32/8   | 30/7   | -     | -     | -     | -    | -   | -   | -  | -   |
| KB0VUK   | EN34  | N    | S   | 25245  | 42/18  | 73/35  | 23/10  | 38/15  | -     | 15/7  | -     | -    | -   | -   | -  | -   |
| KB1VC    | FN42  | Y    | S   | 180    | 15/7   | 5/2    | -      | -      | -     | -     | -     | -    | -   | -   | -  | -   |
| KB2WVG   | FN30  | N    | S   | 3663   | 61/22  | 32/9   | -      | 9/2    | -     | -     | -     | -    | -   | -   | -  | -   |
| KB8NNE   | EN83  | N    | S   | 8789   | -      | 159/37 | 6/5    | 8/5    | -     | -     | -     | -    | -   | -   | -  | -   |
| KB8QGT   | ROVER | N    | R   | 7527   | 22/5   | 47/11  | 32/8   | 30/7   | -     | -     | -     | -    | -   | -   | -  | -   |
| KC6NBI   | CM95  | N    | S   | 1323   | 58/17  | 5/4    | -      | -      | -     | -     | -     | -    | -   | -   | -  | -   |
| KC6TEU   | CM98  | N    | S   | 31289  | 51/11  | 152/24 | 27/9   | 57/14  | -     | 24/9  | -     | -    | -   | -   | -  | -   |
| KC6WFS   | DM04  | N    | S   | 2001   | 43/10  | 20/5   | 4/3    | 8/5    | -     | -     | -     | -    | -   | -   | -  | -   |
| KC6ZWT   | CM98  | N    | S   | 13631  | -      | 121/22 | 31/6   | 67/15  | -     | -     | -     | -    | -   | -   | -  | -   |
| KC8CSD   | EN81  | N    | S   | 7370   | 36/23  | 46/14  | 9/9    | 17/9   | -     | -     | -     | -    | -   | -   | -  | -   |
| KE8FD    | EM89  | N    | S   | 122562 | 95/45  | 170/64 | 45/33  | 66/36  | 9/7   | 16/9  | 4/4   | -    | -   | -   | -  | -   |
| KF0GX    | FK68  | N    | Q   | 1      | 1/1    | -      | -      | -      | -     | -     | -     | -    | -   | -   | -  | -   |
| KF2XF    | FN30  | N    | S   | 2023   | -      | 119/17 | -      | -      | -     | -     | -     | -    | -   | -   | -  | -   |
| KF6JS    | CM97  | N    | S   | 95     | -      | 19/5   | -      | -      | -     | -     | -     | -    | -   | -   | -  | -   |
| KF6LT    | ROVER | N    | R   | 10296  | 48/11  | 76/13  | 20/6   | 35/8   | -     | -     | -     | -    | -   | -   | -  | -   |
| KF9US    | ROVER | N    | R   | 18148  | 34/5   | 91/15  | 35/8   | 55/10  | 5/3   | 6/4   | -     | -    | -   | -   | -  | -   |
| KG4BMH   | EM76  | N    | S   | 3589   | -      | 97/37  | -      | -      | -     | -     | -     | -    | -   | -   | -  | -   |
| KU2A     | FN42  | Y    | S   | 52380  | 80/27  | 110/25 | 41/14  | 60/15  | 11/6  | 18/6  | 2/2   | 2/2  | -   | -   | -  | -   |
| NOHJZ    | EN34  | N    | S   | 104550 | 211/70 | 148/39 | 48/14  | 83/20  | -     | 19/7  | -     | -    | -   | -   | -  | -   |
| N0LL     | EM09  | N    | S   | 24531  | 43/30  | 72/37  | 21/19  | 24/21  | -     | 4/4   | -     | -    | -   | -   | -  | -   |
| NOVSB    | DM79  | N    | S   | 32054  | 80/34  | 77/23  | 24/17  | 42/14  | -     | 13/6  | -     | -    | -   | -   | -  | -   |
| N1DPM    | FN32  | Y    | S   | 126060 | 113/35 | 134/26 | 64/18  | 82/20  | 32/11 | 34/12 | 13/7  | 6/3  | -   | -   | -  | -   |
| N1RWY    | FN54  | N    | S   | 22796  | 78/34  | 84/23  | 25/12  | 31/12  | -     | 1/1   | -     | -    | -   | -   | -  | -   |
| N1ZZN    | FN42  | N    | S   | 2205   | 40/9   | 47/8   | -      | 9/4    | -     | -     | -     | -    | -   | -   | -  | -   |
| N3VBG    | FM19  | N    | S   | 13740  | 127/39 | 102/21 | -      | -      | -     | -     | -     | -    | -   | -   | -  | -   |
| N3XJX    | FN10  | N    | S   | 28730  | 82/31  | 90/24  | 39/16  | 44/14  | -     | -     | -     | -    | -   | -   | -  | -   |
| N3ZTZ    | FM19  | N    | S   | 16640  | 173/44 | 81/20  | -      | 1/1    | -     | -     | -     | -    | -   | -   | -  | -   |
| N5XU     | EM10  | N    | L   | 9225   | 44/11  | 75/14  | 18/8   | 35/8   | -     | -     | -     | -    | -   | -   | -  | -   |
| N6DN%2FR | DM14  | N    | R   | 33600  | 53/9   | 147/15 | 52/11  | 72/9   | -     | 28/8  | -     | -    | -   | -   | -  | -   |

| CALL   | GRID | NEWS | CLS | SCORE  | 50     | 144    | 222   | 432    | 903   | 1.2   | 2.3  | 3.4 | 5 | 10  | 24 | LHT |
|--------|------|------|-----|--------|--------|--------|-------|--------|-------|-------|------|-----|---|-----|----|-----|
| N6ZE   | DM04 | N    | S   | 882    | 17/5   | 30/6   | -     | 8/3    | -     | -     | -    | -   | - | -   | -  | -   |
| N7AU   | DN07 | N    | S   | 1134   | 15/8   | 21/9   | 7/3   | -      | -     | 1/1   | -    | -   | - | -   | -  | -   |
| N8LMT  | EN83 | N    | S   | 4      | 2/2    | -      | -     | -      | -     | -     | -    | -   | - | -   | -  | -   |
| NCL1   | FN32 | Y    | S   | 55209  | 33/11  | 190/25 | -     | 247/41 | -     | -     | -    | -   | - | -   | -  | -   |
| NG4C   | FM16 | N    | S   | 31104  | 137/61 | 67/21  | 17/11 | 25/15  | -     | -     | -    | -   | - | -   | -  | -   |
| VE3CWJ | EN96 | N    | S   | 1184   | 12/11  | 23/20  | 1/1   | -      | -     | -     | -    | -   | - | -   | -  | -   |
| VE3TMG | EN82 | N    | S   | 13303  | 86/28  | 85/18  | -     | 40/7   | -     | -     | -    | -   | - | -   | -  | -   |
| WOZQ   | EN34 | N    | S   | 65856  | 68/20  | 142/38 | 47/20 | 76/18  | 13/9  | 20/7  | -    | -   | - | -   | -  | -   |
| W1AIM  | FN34 | Y    | S   | 34440  | 79/33  | 125/38 | 24/13 | 28/16  | 1/1   | 4/4   | -    | -   | - | -   | -  | -   |
| W1ATT  | FN31 | Y    | S   | 1904   | -      | 68/12  | -     | 22/5   | -     | -     | -    | -   | - | -   | -  | -   |
| W1COT  | FN31 | Y    | S   | 25086  | 32/11  | 119/32 | 35/14 | 45/14  | -     | 7/3   | -    | -   | - | -   | -  | -   |
| W1FN   | FN33 | N    | U   | 15624  | 69/16  | 114/21 | 22/9  | 22/8   | -     | 2/2   | -    | -   | - | -   | -  | -   |
| W1NWE  | FN32 | Y    | S   | 5264   | -      | 66/13  | 21/8  | 22/5   | -     | 9/2   | -    | -   | - | -   | -  | -   |
| W1PM   | FN41 | Y    | S   | 49329  | 99/27  | 94/16  | 52/13 | 57/12  | 18/9  | 21/10 | -    | -   | - | -   | -  | -   |
| W1QK   | FN31 | Y    | L   | 83600  | 244/29 | 310/31 | 66/16 | 97/19  | -     | -     | -    | -   | - | -   | -  | -   |
| W1VHF  | FN41 | N    | L   | 47902  | 304/56 | 119/18 | -     | 61/11  | -     | 3/1   | -    | -   | - | -   | -  | -   |
| W2GKR  | FN31 | Y    | S   | 8580   | 75/32  | 81/23  | -     | -      | -     | -     | -    | -   | - | -   | -  | -   |
| W2KV   | FN20 | N    | L   | 18767  | -      | 383/49 | -     | -      | -     | -     | -    | -   | - | -   | -  | -   |
| W3EME  | FM19 | N    | S   | 16100  | -      | 350/46 | -     | -      | -     | -     | -    | -   | - | -   | -  | -   |
| W3EP   | FN31 | Y    | S   | 36855  | 267/64 | 138/27 | -     | -      | -     | -     | -    | -   | - | -   | -  | -   |
| W3SE   | DM03 | N    | S   | 1      | 1/1    | -      | -     | -      | -     | -     | -    | -   | - | -   | -  | -   |
| W6TOI  | DM04 | N    | U   | 102506 | 146/20 | 228/26 | 71/17 | 129/21 | 10/9  | 30/11 | -    | -   | - | 3/3 | -  | -   |
| W9JN   | EN54 | N    | S   | 2772   | 18/10  | 21/11  | 8/7   | 11/8   | -     | -     | -    | -   | - | -   | -  | -   |
| WA1HOG | FN42 | Y    | S   | 35328  | 84/19  | 122/18 | 22/5  | 67/15  | 12/6  | 20/6  | -    | -   | - | -   | -  | -   |
| WA2FGK | FN21 | N    | S   | 304196 | 177/51 | 315/71 | 74/28 | 113/30 | 33/15 | 39/17 | 15/9 | 9/5 | - | -   | -  | -   |
| WA2ONK | FN20 | N    | S   | 53270  | 28/4   | 161/19 | 71/16 | 65/15  | 35/8  | 40/8  | -    | -   | - | -   | -  | -   |
| WA2VUN | FN20 | N    | S   | 37762  | 171/35 | 151/21 | 35/11 | 43/12  | -     | -     | -    | -   | - | -   | -  | -   |
| WA2ZFH | FN30 | Y    | S   | 20451  | 25/6   | 80/15  | 50/13 | 50/11  | -     | 24/6  | -    | -   | - | -   | -  | -   |
| WB2WIH | EL96 | N    | S   | 27440  | 243/46 | 69/13  | 10/4  | 30/7   | -     | -     | -    | -   | - | -   | -  | -   |
| WG2E   | FN22 | N    | S   | 26048  | 352/74 | -      | -     | -      | -     | -     | -    | -   | - | -   | -  | -   |
| WZ1V   | FN31 | Y    | S   | 165738 | 139/24 | 210/39 | 84/22 | 120/21 | 35/12 | 48/13 | 9/5  | 5/2 | - | -   | -  | -   |

The scores were taken from Matt, KB1VC's web page at: <http://www.tiac.net/users/reilly/janscores.html> . I am not sure about the class of the station. Matt had a category for low power single operator and high power single operator. As far as I could tell H is for high power single op. and S is for low power. To my knowledge the ARRL did not add a new class this year but that is what is indicated on Matt's page. I didn't have time to check this out as I wanted to get the NEWSletter out.

Del, K1UHF

## THE PHONE RANG! DEL, K1UHF

I operated the contest until 9:30 PM Saturday when I got the dreaded phone call. The neighbor called up and said I was scaring her. My one neighbor has been complaining about TVI ever since I moved in. I have tried on many occasions to fix the problem with limited success. The fundamental overload problem on 6 and 2 is cured with the filters that I sell but I unfortunately do not have them for 222. I got the audio rectification fixed by unplugging her rotator box. The rotor was broken and doesn't turn, pointing at me, of course.

The real problem is my wife likes the neighbor and she thinks I should stop bothering the neighbor. After a fight with the XYL I pulled the plug in disgust. I really should have kept going and took the phone off the hook but at that point I gave up.

I don't think there is one of us that has not had this problem. The

majority of hams just limit their operation, don't get on certain bands, operate portable or limit the power output. I don't think this is right considering that crappie consumer electronics are usually at fault.

Besides selling filters, one thing to thank my neighbor for, I have started a web page at: <http://www.qsl.net/tvi> . I need help with the data base collection before the web page can be functional. It is just a mock up at this point. Anybody wish to help with the page?

I think that our club should have a TVI/RFI committee, not just for technical assistance but more for diplomatic liaison. I am sure I cannot get anywhere with my neighbor, I have tried.

Next contest I had just better send the wife and kids away for the weekend, take the phone off the hook and turn the lights out. I doubt I will give up as easily as most hams.

73, Del, K1UHF

resistor actually sets the maximum grid current that can be drawn, which can be calculated from the voltage drop across this resistor (which will vary with the output voltage) and the maximum desired DC grid current. A 2.7K to 5K, 10-watt resistor will be satisfactory. The other power dropping resistor to the 24 volt zener is chosen so as to provide sufficient operating current to the op amp in addition to the current through the 24 volt zener. The reference voltage zener value is not critical but if it is raised much higher than the suggested 6.2 volts, the values of the three series resistors across the output of the regulator should be readjusted to provide the desired bias voltage adjustment range. The shunt transistor itself can be nearly any high-voltage ( $V_{cbo} > 200$  volts) power silicon bipolar, or even an IRF840 MOSFET transistor such as used in the G3SEK tetrode regulator circuit. If a MOSFET is used, it may be necessary to use a voltage divider network between the output of the op amp and the gate of the MOSFET as shown in G3SEK's schematic. In addition, I found it necessary to connect a 50 pF silver mica capacitor between the + and - inputs of the op amp to prevent high frequency oscillation when driving the MOSFET gate. This capacitor is not needed with the bipolar shunt transistor. Oscillation when driving the bipolar transistor is prevented by the 1 microfarad capacitor across the output of the regulator and the negative feedback resistor across the op amp.

## FOR SALE OR SWAP

### Ready-To-Install, Flip-Switch AM-6154/6155 Amplifiers

Complete, ready-to-install and plug into your station with brand new Tohtsu TR relays, grid bias shunt regulator, internal T/R switching relay, and metering mods. Professionally-modified and upgraded surplus FAA amplifiers, or custom-modified to your order for 144/222/432 MHz. Guaranteed 500 watts CW output on the 144 or 222 MHz bands and 400 watts on 432 MHz. Typical output with new DX-393 tubes is 550 watts for 144/222 and 450 watts for 432 MHz with 10 watts drive.

Upgrades and modifications include almost all the commonly-known and some custom mods, such as grid and screen current metering, a new TX-RX mode switching relay, internal power supply for external coaxial TR relays, replacement of rear panel Cannon connector with a commonly-available type through which extra NO-NC relay contacts and switched voltages are available for external relay, preamp or other accessories, and more. These modifications represent 24 to 40 hours of labor (depending upon original amplifier condition) and checkout time plus at least \$55 in parts not including the Tohtsu relays.

A limited number of amplifiers is available from stock, or I can custom-modify your own mainframe, RF drawer, or both. From stock, with all the above modifications (and more), the 144 and 222 MHz amplifiers are \$525, and 432 MHz amplifiers are \$575, shipped at your expense (hand delivery, depending upon destination, may be available). Modification of your own amplifier requires a quotation and possible examination. Free one-year technical support and repair labor; parts, excluding tubes and coaxial relays, are warranted for up to 90 days (excluding obvious abuse).

Please note: I do NOT have extra modules, tubes or small parts available at this time.

Contact: Steve Harrison, K0XP via e-mail or snail-mail at: ko0u@os.com or 37 Plainfield Avenue, Shrewsbury Massachusetts; telephone (508) 757-2702 (if phone seems always busy, please try e-mail).

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Please contact Del, K1UHF with any suggestions comments or questions. K1UHF@westmountainradio.com

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**(2) Down East Microwave WSS1152 Signal Source**, completes @70.00 each.

**ICOM IC-275H**, 2M all mode, High Stability Oscillator, HM-12 mike, PS-55 Power Supply, instruction & technical manuals, \$1000.00.

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**(4) Cushcraft 32-19** antennas w/K1FO mods, \$65 each or 4 for \$250 w/4 way power divider. Pickup or deliver to NEWS meeting.

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Del Schier, K1UHF, 126 Old West Mountain Road, Ridgefield, CT 06877, (203) 431-423 or K1UHF@amsat.org

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**NEXT N.E.W.S. GROUP MEETING  
SATURDAY MAR 11TH 1:00 PM AT THE RADISSON HOTEL  
ALL ARE WELCOME TO THE DIRECTORS MEETING AT 11:30 AM  
LUNCH BUFFET - AT NOON IN THE HOTEL RESTAURANT.**

**NEXT MEETING WE'LL HAVE A TECHNICAL PRESENTATION  
BY A MYSTERY SPEAKER**

**DON'T FORGET YOU NEED TO ATTEND MEETINGS  
FOR THE CLUB ARRL COMPETITION!!**

**Radisson 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 N1DPM  
Fred Stefanik  
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