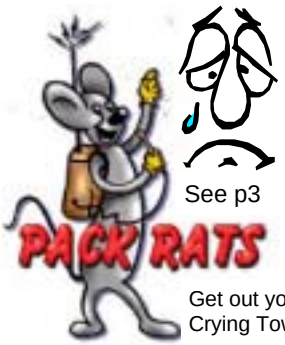
Mt. AIRY V.H.F. RADIO CLUB, INC.



See p3

Get out your Crying Towel

CHEESE BITS

W3CCX

CLUB MEMORIAL CALL

ARRL Affiliated Club

Volume XLVI **February 2004** **Number 2**

PREZ SEZ

WOW. It was the best of contests and the worst of contests. The worst was being the band conditions on Saturday and part of Sunday. The best being how hard we all had to work to keep our scores up. If you didn't get the grids, you had to get the Qs. I remember in past contests having some down time looking for new Qs and grids and not finding them. This contest I just kept plugging away and they came. There always seemed to be someone new out there to work despite conditions. That is a good sign that activity, in general, is up. It was good to see the amount of club participation this year. We all tried extra hard to locate each other and maximize the member to member QSOs. We should be congratulated on our efforts. I am looking forward to the crying towel stories. I already know who I think should get it.

Assistance was also abundant. I participated with many others in the large project of getting Jim WA3EHD back on the air. There were numerous other acts of kindness going on amongst club members. Many of us were on new bands with more aluminum in the air. We should be prouder of this than our scores. A special thanks goes out to the rovers. They braved the elements to enhance the experience for everyone.

January's meeting was graced by one of Ben's best presentations. His latest contest analysis software efforts were extraordinary. I especially liked to see the effect of removing a particular station's participation on the overall club score. It shows that one person's participation makes a much larger difference than just his or her score.

It was fun working Harry W3IIT on six meters, thinking that he stayed home. I was shocked to hear his EL grid report. You never know where a Packrat will show up! 73s and we'll see you at the "Cryin' Towel." Paul WA3GFZ

All 'Rats: Contest Wrap-up and Bagel Brunch-Sat, Feb 7, 9:30AM-Noon
QTH: K1DS-Rick Rosen-206 Kimberton Drive-Blue Bell, PA 19422

Broadband Over Powerline (BPL) What Can You Do?

Speaking at the Frankfort Radio Club last month, Ed Hare, W1RFI, Lab Manager of the ARRL highlighted the potential problems and demonstrated the actual disaster that BPL might be. His technical talk included a series references, and how BPL differs from a few point-source birdies that currently cause minor problems. Most impressive was a video of what BPL actually sounds like across the ham bands, as he took a rig in his car and went to towns where demonstration projects of BPL are active, including Emmaus, PA. Does the term "TOTAL WIPEOUT" mean anything to you? That's exactly what happens to the ham bands, as broadband is exactly that, EVERYWHERE in the spectrum. There was no effect on standard AM commercial broadcasting, as that was out of the typical ham band frequencies.

Ed Hare W1RFI

Amateur Radio has allies against broadband in many other groups that use radio communication, including other emergency services and aeronautical groups. The ARRL has filed a substantial technical reply to the FCC. Your comments to the FCC and your congressional officials may be helpful, if they contain specifics, even though the reply period is over. Watch for the Notification of Proposed Rule Making for another comment period. In the meantime, we can all join the fight against BPL by being active ARRL members, contributing to the Spectrum Defense Fund (recently mailed to all hams), file comments with the FCC and any congressional contacts. Timely contact at the right time to the right place is key. Documenting noise levels and adverse experiences is helpful. Look at your bands now with your own home and mobile set-ups and store this as baseline data for any future comparisons. See: http://www.arrl.org/tis/info/HTML/plc/ for the complete picture Our credibility as hams is enhanced by sticking to our own turf, and remaining independent in our responses, citing emergency capability and activity. 'Rats were represented by Jim, WA3EHD & Rick, K1DS as guests at this meeting in Philadelphia.

Pack Rats **CHEESE BITS** is a monthly publication of the
Mt. AIRY VHF RADIO CLUB, INC. -Southampton, PA.
SUBSCRIPTION RATE: $16.00 PER YEAR (USA)
$20.00 PER YEAR (CANADA)
$10 PDF only $24.00 PER YEAR (ELSEWHERE)
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AA3GN (1 Yr) Joe Landis
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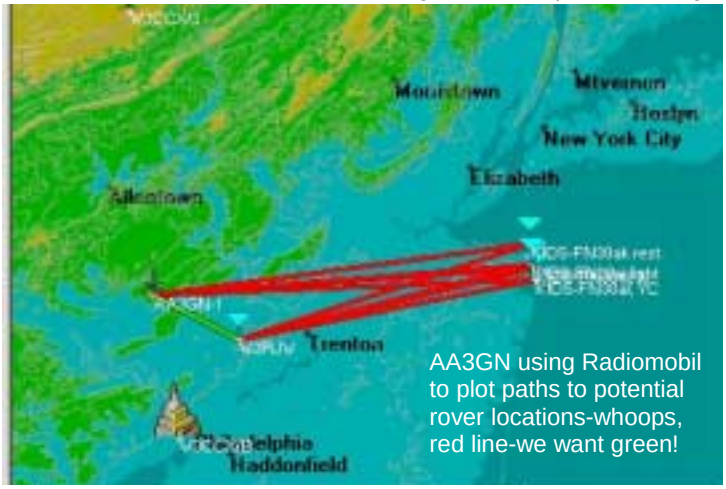
June Contest: "I'm not the contest chairman"
HAMARAMA: WA3DRC 215-322-2105
VHF Conference: KB3XG 610-584-2489
Awards Chairman WA3GFZ 215-884-3116
QUARTERMASTER: K3IUV, Bert Soltoff, soltoff@uscom.com
PACKRAT BEACONS - W3CCX/B
FM29jw Philadelphia, PA
50.080 144.284 222.065 432.295 903.071 1296.251 MHz
2304.037 3456.220 5763.190 10,368.140 MHz (as of 3/1/01)

MONDAY NIGHT NETS

TIME	FREQUENCY	NET CONTROL	
7:30 PM	50.150 MHz	WA3EHD/K3EOD	
8:00 PM	144.150 MHz	N3ITT	
8:30 PM	222.125 MHz	W2SJ/N3EXA	
8:30 PM	224.58R MHz	W3GXB	
9:00 PM	432.110 MHz	W3RJW	FN20le
9:30 PM	1296.100 MHz	WA3NUF	FN20le
10:00 PM	903.125 MHz	AA3GN	FN20ig
10:30 PM	2304.085 MHz	W3KJ, & go to 3.4G & up after	FN20hg



AA3GN using Radiomobil to plot paths to potential rover locations-whoops, red line-we want green!

Editor's Column

It's 2 weeks before the contest. Zero degrees for most of us upon arising this AM. Not a good day for antenna work, but a fine day to find out the rover van needs a new battery—it didn't crank over this AM, so put the charger on it, headed up for an oil change first, then to W3RJW's for some power measurements and amp connections for 903, and then on to get a new battery. Yup, everything needs to be subjected to the extremes before you leave the driveway!

It's been exciting to see a lot of equipment changing hands among the group, and so many little items being squared away for the contest. I'm sure the proof of all the prep will be in the enjoyment of having a lot of bands active and the resultant score. It's now 1 week before the contest, the Eagles have bowed their heads in defeat, and we don't have football mania to contend with. 6m E's popped in this weekend, foreshadowing some potential opportunities—now should I take the other 6m beam elements, or just go with the driven element dipole?? It's easier. Dropped by NE3I's to see his rover progress, and he's ready to triple his score from last year, with an added band and better antennas, power, and rover spots. The team has completed the antenna stack at WA3EHD, I know more tower work was going on at N3NGE, and now K1JT has his micro tower set also. All of our new club members promised to be active to the best of their stations abilities. N3PLM has better power on 2304, and K3TUF is making FN10 available on ABCD9EFI. 24G looks ready at a few places, we'll see what the payoff is there.

Yes, a week later and hopefully most of us have recovered. Never a dull moment during the contest! Whether you climbed the tower with a –10 wind chill, or as I heard, "did brain surgery on the gear" during the contest, there was lots of activity, one way or the other, despite rather flat and poor conditions. A spark of opening on 6m late Sat afternoon, some clearing Sunday night, and no obvious disasters during the activity. Yes, we're all waiting with bated breath for the wrap-up and for the "Cryin' Towel."

No doubt, everyone with a computer has seen the listing on the 'rumored' scores of the NEWS Group that a trio of hams in CA did a 16 grid rove in an apparent coordinated type fashion, with each of them scoring over 1 million points. Didn't quite break the 'tandem' rover adventure of a few years ago of 1.3 million points, but it sure had the comments flying on the reflector. As we had the sidebars about roving this past year in the ARRL contest comments, the issues remain rather the same; there are "legal" ways of increasing scores that appear to be somewhat distasteful to others, and seemingly not in the spirit of VHF and microwave ham contesting. Yet others concede that anyone who would take the time, money and effort to equip a fleet of rovers with 10 bands and then carry out a 16 band rove and make a colossal number of QSOs at least deserves credit for the effort. After all, it does increase the interest and the activity, and hopefully there are some collateral benefits for non-contest communication.

Other commenters keyed in on the enjoyment of the activity, and how it seems to take the joy out of hamming when the only goal is points-points-points. Well, survive, we all will, in our own ways, and enjoy what we do for the sake of doing it and being part of a club, and a 'fraternity' of hams capable of operating on bands above 50MHz. And whether it's helping someone else get on the air, building a rig, getting a station put together for those who need the assistance, or just the camaraderie of sharing the on-the-air event to say, "I was there," or catching some Es, Au or MS or even EME (as two of our club members did last year) everyone wants to thank everyone else for keeping them turning the dials and the rotors to make the activity ***active*** **and prevent us from having a boring gap between the Eagles league loss and the Super Bowl. Improvements are already in the works for next year! 73,Rick -send in your reports for the next issue.**

SUBSCRIBERS: RENEW PROMPTLY FOR 2004 PLEASE— DON"T LAPSE!
MEMBER PACKRATS: DUES ARE DUE NOW!

Important Dates and Events—Be Radio-Active!!

Saturday Feb 7	**Microwave Activity Morning**	**8AM-1PM**
Monday Feb 9	**Microwave Activity Evening**	**7PM-11PM**

All bands 432 & Up, Coordinate on 144.260

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Mondays, Feb 2,9,16,23 **Packrat Net Nights** **Start @7:30PM, see p2**

Sat, Feb 7th-Contest Wrap-Up & Bagel Brunch -QTH-K1DS– 9:30-Noon
Thurs, Feb 12th PACKRATS BOD MEETING 8:00PM-Open to All Packrats
QTH-Paul Sokoloff-WA3GFZ-508 General Patterson Dr-Glenside, PA

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Thurs, Feb 19th— PACKRATS MEETING—8:00PM

Southampton Free Library, 947 Street Road

Bring your best, funniest and wildest stories about preparation and contest exploits of the 2004 Jan VHF Sweepstakes. Judges panel to award prizes. Props and pictures encouraged

CRYING TOWEL 2004

This is an open meeting, bring a guest or friend!

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Future Scheduled Meetings:

March 18: Homebrew Night—your projects displayed and discussed for the judges. Prizes awarded
April 15: ARRL and Awards Night, June Contest Preparation
May 20: Speaker—N4HY Software Defined Radio, June Contest Prep
June 17: Elections and "Festival Night"
July TBD: White Elephant Sale—the best auction of "stuff" of the year

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Also Upcoming: Spring Sprints: For more information including Spring Sprint times and rules please visit the ETDXA website at www.etdxa.org

144 MHz April 5 (Monday PM)
222 MHz April 13 (Tuesday PM)
432 MHz April 21 (Wednesday PM)
Microwave May 1 (Saturday AM)
50 MHz May 8 (Saturday PM)

11th International EME Conference Trenton, NJ August 6 - 8, 2004	Microwave Update (MUD) 2004 will be hosted by the North Texas Microwave Society and will be held in Dallas near the DFW airport on October 14, 15, and 16. www.ntms.org and www.microwaveupdate.

SBMS Int'l Microwave Contest: May 1-2 to coincide with MAD and Sprint!

June ARRL VHF QSO PARTY: Sat-Sun June 12-13

RefLocking DEMI Microwave Transverters

Steven Kerns - N3FTI

Originally presented at the 2003 Mid-Atlantic VHF Conference

Abstract – *For many years amateurs have been utilizing PLL (Phase Lock Loop) systems to stabilize their microwave local oscillators to a highly stable frequency standard. While many of these were custom one off designs, others have gone to great lengths to document and publish their work. These systems have been based on discrete logic, commercial PLL chips, and most recently Programmable Logic Gate Arrays (PLGA). Until the advent of No-Tune Transverters, surplus commercial microwave "Brick" oscillators were the backbone of all amateur microwave transverter designs. Because of this, the majority of these systems were designed to interface with these "Brick" oscillators. The latest PLL system to enter the amateur community is the RefLock system designed by Luis Cupido, CT1DMK. The RefLock is a compact, very flexible system based on PLGA technology but is intended for use with surplus commercial "Brick" oscillators. The following article describes my work integrating the CT1DMK's RefLock PLL board with the popular line of Down East Microwave No-Tune Transverters.*

Introduction

The advent of the WSJT suite of weak signal software by Joe Taylor, K1JT, has given the VHF operator an additional tool to exploit short lived and very weak signal propagation modes. Because the software requires very high accuracy of both time and frequency, it has been best used on the VHF and lower UHF bands where frequency stability and accuracy are easily achieved. Can this software be utilized to further investigate propagation modes on the upper bands? In order to utilize these same digital modes, we must first achieve the accuracy and frequency stability required by the software. In the case of the three digital WSJT modes, this is on the order of plus or minus 200 cycles. To achieve this kind of local oscillator stability would require more than just the classic temperature compensated crystal oscillator.

While attending Microwave Update 2002 in Enfield Connecticut I attended Tom Williams, WA1MBA's presentation 1 *"Quest for Microwave Frequency Stability or How Far Should I Tune for You?"* The basis of Tom's presentation was practical methods of improving local oscillator stability and accuracy, along with an explanation of each system. I was very interested as Tom described a PLL system designed by KD6OZH and described in the Nov 1999 QEX 2 "Stable, Low Noise Crystal Oscillator for Microwave and Millimeter-Wave Transverter. But like many earlier PLL systems, this one was designed to provide a 90 –110 MHz reference for commercial brick oscillators. Since I had standardized on the DEMI line of microwave transverters, I needed a simple but versatile PLL system to interface with my existing DEMI MicroLO local oscillators. Within months of the conference I learned of a new PLL system designed by Luis Cupido, CT1DMK. Luis' design, dubbed the 3 RefLock, utilizes Programmable Logic Gate Array technology. Although designed for use with commercial brick oscillators, the RefLock is a stand-alone PLL board that can be programmed to reliably lock voltage-controlled crystal oscillators ranging in frequency from 10 to 160 MHz.

Description

The testing, modifications and implementation described here were performed on my 10GHz DEMI transverter, but will work equally well on all DEMI transverters using the MicoLO board. Early in this project it was clear that there were some key problems that had to be solved,

1. The DEMI MicroLO oscillator (TCXO) must be converted to a variable frequency-temperature compensated crystal oscillator (VTCXO).
2. The converted DEMI VTCXO must be prescaled to fit the frequency
limitations of the RefLock PLL system (160MHz)
3. Proper signal levels for *VCO* and *Ref* inputs to the RefLock board must be
determined.
4. Empirically determine RefLock loop filter component values for the VCXO.

Reflock Board

It is beyond the scope of this paper to fully describe the construction and programming of the RefLock board, this is but a basic overview of the systems. I urge anyone contemplating building and programming the board to visit CT1DMK's excellent web page at http://gref.cfn.ist.utl.pt/cupido/reflock.html

The RefLock PLL board is based on the Altera EPM3064ATC44-4 or EPM3032ATC44-4 CPLD chip. These PLGA devices are in actuality 1000s of programmable logic gatesthat can be configured as programmable dividers and phase comparators. The program is loaded into the chip via a JTAG (Joint Test Action Group) standard interface connected to the parallel port of any modern windows based computer. Initially described in a 2002 DUBUS article, the first of three Reflock versions utilized programming files to allow the PLL to lock to one of following popular microwave brick oscillator base frequencies

90.000 MHz	90.666 MHz	96.000 MHz	100.000MHz
106.500MHz	117.000 MHz	122.250 MHz	125.250 MHz

The second software version used the same hardware as the first, but is programmed to function as a "Universal Version" that locks only to the last significant digit of any VCXO frequency. This is ideal for use with VCXOs, as they usually have a very narrow tuning range. The chart below lists the eight lock points programmed into this version.

2.5 KHz	3.333 KHz	5.0 KHz	10.0 KHz
33.333 KHz	25.0 KHz	50.0 KHz	100.0 KHz

The third version also utilizes the same hardware as the first two, but is programmed to utilize phase/time lag counting methods to lock a 10MHz VCXO to the 1 pps signal available from most global positioning receivers (GPS). Because of its ease of use and the ability to be used on a wide range of frequencies, I based my work on the "Universal Version" of the RefLock.

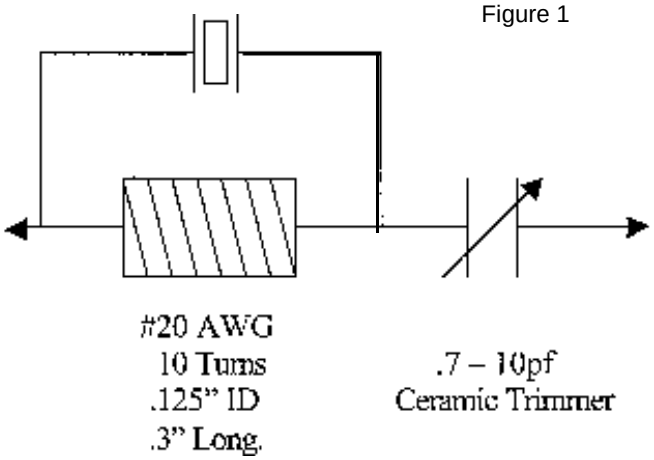
After construction and programming the RefLock frequency and mode jumpers must be configured for opera-

tion with the MicroLO oscillator. The proper setting are, PD2 Down, and the Frequency Control Jumpers set to 001. The board seems to work best when VCO and Ref levels are between 0 and +3dBm.

DEMI MicroLo Board

The MicroLO Board is utilized by DEMI for all transverters from 2304MHz to 10GHz. This temperature stabilized oscillator provides a +3dBm output in the 1100 MHz range (see Table 1) which is then further multiplied on the transverter board to the desired mixing frequency. DEMI's 903 and 1296 transverters utilize an on board version of this same base oscillator. At the conception of this project I believed the biggest hurdle was to convert the existing DEMI MicroLO into a VTCXO. Thanks to Joe Jurecka, N5PYK this was one of the easiest tasks. Like others, Joe was working to interface his DEMI transverters to the Reflock board and we exchanged many emails concerning the project. He was also running into some of the same problems as I was. First, the unmodified MicroLO could not be tuned down to exactly 1136MHz using the frequency adjust trimmer. This was solved by replacing the .1uH choke (L2), with a .1uH air wound inductor and placing a .7 to 10pf trimmer cap in series with the crystal and coil (Fig. 1). By adjusting the physical dimensions of the choke and adjusting the capacitor it is now possible to put the oscillator on exactly 1136.0000 MHz.

Figure 1



Because the upper frequency limit of the RefLock is 160MHz, the 1136MHz output of the MicroLO must be prescaled (divided) before being applied to the input. If divided by 8 the 1136MHz oscillator becomes 142MHz, well within the limits of the RefLock. The circuit in figure 2 shows the prescaler used in this project. It consists of a MAR3 MMIC amplifier followed by a MC12093 /2/4/8 prescaler configured for /8 division. A 160MHz low pass filter follows the MC12093 to remove any harmonics that may be present in the output of the prescaler. Another MAR3 amplifier amplifies the filtered 142MHz that will be applied to the RefLock VCO Input port. C1 is located on the Microlo board, the remaining components are located in a separate shielded enclosure and connected via SMA connectors and a high quality shielded jumper. The 142MHz output of the prescaler circuit has been designed for a level of ~+3dBm, as both the *VCO* and *Ref* inputs to the RefLock board work best with a level between 0 and +3 dBm. This circuit is built dead bug style, utilizing chip components and following good microwave building techniques.

Another obstacle involved converting the temperature compensated crystal oscillator to a variable frequency temperature compensated crystal oscillator (VTCXO) and deriving the proper values for the loop filter. By adding a varactor diode and a blocking capacitor in parallel with the existing frequency control trimmer capacitor (C2) the oscillator could now be pulled in frequency by the control voltage applied by the RefLock. The initial loop filter values that were suggested for use with brick oscillators just would not work with the MicroLO. Joe suggested adding a series network composed of a 100ohm resistor and a 10uF tantalum capacitor between the VCXO tuning voltage line and ground. This took care of all instability and the unit now locked. Figure 3 details this circuit along with proper connections to the RefLock.

Concluding Remarks

Although originally designed to phase lock surplus commercial brick oscillators, the RefLock board can also be utilized to lock the popular Down East Microwave line of microwave transverters. Long term testing has concluded that even when using a low cost Temperature Compensated Crystal Oscillator as the reference (10MHz), local oscillator stability on the order of better than 10hz at 1136MHz (the resolution limit of my GPS referenced frequency counter) can be expected. Even greater accuracy can be expected when using a GPS, Rubidium or Cesium frequency reference. These accuracies are precise enough to utilize WSJT digital modes. Now that the system has been proven on 10GHz, the next step will be to implement it on the lower microwave bands. Printed circuits boards for the prescaler will be engineered and made available so the system can be easily reproduced by other amateurs wishing to duplicate this work. If warranted, complete conversion kits may be made available through the Mt Airy VHF Radio Club. Steven Kerns, N3FTI
For more info go to> www.qsl.net/n3fti/

1 *"Quest for Microwave Frequency Stability or How Far Should I Tune for You?*", Tom Williams, WA1MBA, Proceedings 17 th Annual Microwave Update 2002 and the 28 th Eastern VHF/UHF Conference.

2 " Stable, Low Noise Crystal Oscillator for Microwave and Millimeter-Wave Transverter", John Stephensen, KD6OZH, Nov 1999 QEX

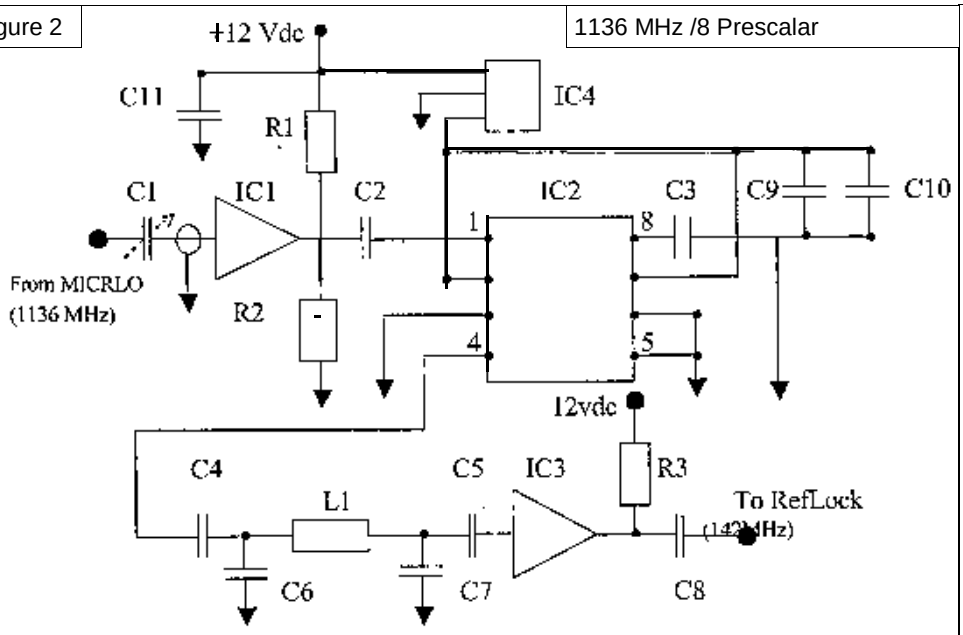
3 http://gref.cfn.ist.utl.pt/cupido/reflock.html

See the pages 6-7 for additional figures and tables.

There are 6 kits left at last count. The cost for the kits are $65.00 each for Packrat members, $75.00 for non-members. Add $5.00 for each kit for shipping (if not picked up at a meeting or conference). All profits realized from the project go directly to support the activities of the Packrats. There is more info about the kits along with a order form in .pdf format on my webpage (www.qsl.net/n3fti)

Figure 2

1136 MHz /8 Prescalar



Parts List

C1 = 10 pf fixed or VAR

C2,C3,	1000pf	R2	50Ω
C4,C5,C8	100pf	IC1,IC3	MAR3
C6,C7	20pf	IC2	MC12093
C9	10uf /10V	IC4	LM7805
C10, C11	.1uf	R1, R3	270Ω
L1	100nH (125" id – 10T - #22 - .3" long)		

Figure 3

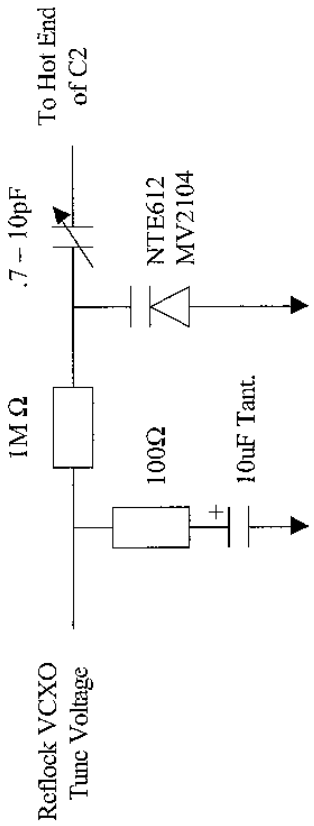
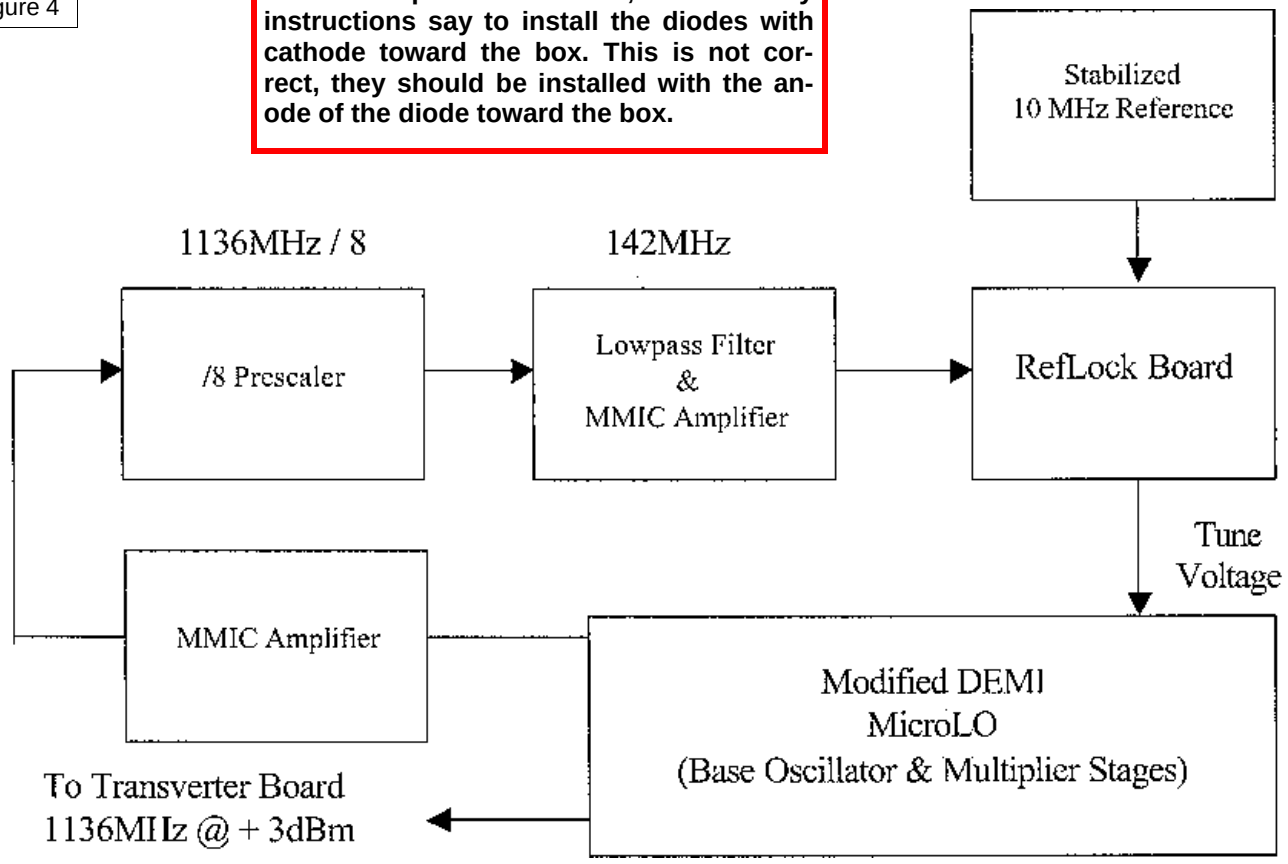


Figure 4

Technical update on the kits; the assembly instructions say to install the diodes with cathode toward the box. This is not correct, they should be installed with the anode of the diode toward the box.



See P7 for Tables 1 and 2

Table 1 Band	Crystal Frequency	Microlo Output Frequency and Power	Transverter Multiplication	Xverter LO Frequency
903	189.750 MHz	759.000 MHz	NA	759.000 MHz
1296	192.000 MHz	1152.000 MHz	NA	1152.000 MHz
2304	180.000 MHz	1080.000 MHz +3dBm	X2	2160.000 MHz
2400	188.000 MHz.	1128.000 MHz. +3dBm	X2	2256.000 MHz.
3456	184.000 MHz.	1104.000 MHz. +3dBm	X3	3312.000 MHz.
5760	187.200 MHz.	1123.200 MHz. +3dBm	X5	5616.000 MHz.
10368	189.333 MHz.	1136.000 MHz. +3dBm	X9	10224.000 MHz.

Table 2 Band	LO	Frequency LO / 8
903 MHz	759.000 MHz	94.875 MHz
1296 MHz	1152.000 MHz	144.000 MHz
2304 MHz	1080.000 MHz	135.000 MHz
2400 MHz	1128.000 MHz	141.000 MHz
3456 MHz	1104.000 MHz	138.000 MHz
5760 MHz	1123.200 MHz	140.375 MHz
10.3 GHz	1136.000 MHz	142.000 MHz

Rats, I'm sorry to have missed the contest from PA but family obligations required me to be down here. I did get on from EL98QE on 6, 2 and 432. I got the antennas up Saturday and first turned on the 6 meter rig. I was pleased to here signals just like I was used to hear from FN20 - the Philadelphia area and New England.

I worked 9 Packrats: AA2UK, WA3NUF, WA3DRC, K1JT, WA3GFZ, W3GAD, K3IUV, KB3HCL and K3IPM. I heard but was unable to get the attention of W0RSJ, W3RJW and W3OR. We had an extensive opening late Sunday afternoon into the evening to Texas. It ran for at least 4 hours - mostly straight west. Worked 14 grids in TX . There were not a lot of stations on but they were in there for most of the opening. There is a surprisingly lot of activity around here on the microwave bands. Several stations are active on all bands thru 10 GHz. **73, Harry, W3IIT**

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We had a great time, and like everyone else, we have our stories about the contest. I hope to get us both to the February meeting. Dad's looking forward to 2006. From what I understand, he and Ernie (W3KKN) are the last 2 founding members. We worked Ernie during the contest. They had some good laughs remembering the old days.
73's Joe, WB3DAD (W3RZU's son, manual DUPE checker and Armstrong rotator)

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The January VHF SS Score Rumors webform is up at
http://www.newsvhf.com/janscores.html

It's also linked from our NEWS contest page,
http://www.newsvhf.com/contests.html

Feel free to enter your breakdowns or check out others. Note this page is for entertainment only and does not replace submitting your logs to ARRL.

-73, Ron WZ1V

***An error was found on the assembly instructions for the VHF LOG LPT Interface Kit. Seems the first set of boards (the three made on the engineering run) had the silk screen of the diode polarity reversed from the production run. If you purchased a kit, the instructions should be corrected to read "the anode end of the diodes go toward the box" not the cathode end. If you have assembled the kit incorrectly and need more diodes or transistors, please let me know and I'll send replacements out ASAP! Feel free to contact me with any other questions! Thank you Steven Kerns, N3FTI N3FTI@yahoo.com

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11th International EME Conference

Trenton, NJ
August 6 - 8, 2004

The Conference will be held on August 2004 at the College of New Jersey. Though the Conference is organized by EME operators, it is open to all radio amateurs interested in weak signal communications and VHF, UHF and microwave techniques.
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WSJT Update and JT65

A new Beta Release of WSJT is available for free download at the WSJT home page,

http://pulsar.princeton.edu/~joe/K1JT.

Its principal attraction is a new mode called JT65 that includes powerful FEC (forward error correction) and will be able to work with significantly weaker signals than JT44. A brief list of the features and technical specifications of JT65 is available at

http://pulsar.princeton.edu/~joe/K1JT/WSJT4.TXT

and a "Quick Start Guide for JT65" may be found at

http://pulsar.princeton.edu/~joe/K1JT/UPD411.TXT.

If you try the new JT65 mode, please send me your comments -- good or bad. -- 73, Joe, K1JT

San Bernardino Microwave Society REVISES Date to May 1 & 2 for the 2GHz and Up Contest for 2004

In the spirit of stimulating more activity in the microwave bands, the San Bernardino Microwave Society (SBMS) members came up with the 2GHz and Up Contest. **The revised contest period is May 1 to May 2, and runs for 24 hours.** This contest should encourage activity and level some of the microwave contest playing field. The contest would involve activity from 2GHz and up, and center around club activity. Members tally up their scores and add them up with other members' scores to make up a Club Score. The final score is then submitted in one of three categories based on club size.

For the purposes of this contest, you can make up a club of two and call yourselves whatever you like. (However, we don't encourage names that may not appear in print). This is not meant to break up a large club into 25 small clubs, for example, but rather to give isolated stations, roving groups and others a chance to win in a special category. For instance, several SBMS members have extensive roving stations on multiple bands. Should they enter as a separate club or should they be a part of SBMS? We felt that ordinarily if you are a member of an established club you should enter under that club name. However, if you are not a current member of a club, either join one or start your own. Minimum club size is two members/ operators with separate stations. The contest rules appear below. This is still a very new event and we look forward to your comments to improve it. For more information, contact Pat Coker, N6RMJ, 40916 179th Street, Lancaster CA 93535, or e-mail: n6rmj@sbcglobal.net

Editor's Note: I am thankful that the dates for the SBMS contest were revised to be in synch with the Microwave Sprint, AND Microwave Activity Day. In the spirit of increased activity, I plan to be out in the rover van, and encourage all those with microwave capability to be active AND submit their scores to both the SBMS (as clubs, formal or ad-hoc) and for the Microwave Sprint.

Web Applet for Creating Cabrillo Format Logs Is Available

The ARRL Contest Branch is please to announce that a web-based applet is now available for participants to use in order to generate and email ARRL Contest logs in the required Cabrillo file format. The first ARRL Contest for which the web applet is available is the recently completed 2004 RTTY Roundup. The applet, while intended for smaller log submissions, can be used for submissions of any size. It will be available for all ARRL events that require electronic logs in the Cabrillo file format. Thanks to Bruce Horn, WA7BNM, and with the support of several other amateurs, it is now possible for participants to create Cabrillo contest logs on the web. Bruce is developing templates for each ARRL contest, which will allow persons that paper log, or those whose logging programs will not generate a Cabrillo file, to create electronic logs for submission to the League. Bruce has provided a homepage at:

www.b4h.net/cabforms/

where links will take users to the various contest templates. The web applet works in two parts. First, the user is prompted through the information required to create the Cabrillo file header, including ARRL/RAC section, Callsign used, Callsigns of operators, Entry class, Entry mode (if applicable), Power level, Sent exchange information, Club (if applicable), and Operator's name and address. Where appropriate, drop-down boxes are used to allow the submitter to select the correct information. Once you have finished supplying the information for the header, the next screen allows you to input the data for each individual QSO. The user may either type in the information for each QSO, or they may cut and paste the necessary information (band, date, time, call copied, received RST, received exchange) from another source. Make sure to leave a space between each piece of data on the QSO line and to use a new line for each QSO. Once you have entered all of the QSO data, click on the "SUBMIT QSO INFO" button at the bottom of the page. The applet will then check for any errors in format. If everything is correct, the applet will display the completed file, where you can check your information one last time. Finally, click the "SUBMIT CABRILLO LOG" button at the bottom and the applet will automatically email the entry to the correct address for the contest, as well as send a copy to you for your records. Upon submission, the applet-created log will be processed as all other submissions. If the contest robot finds problems, the appropriate emails will be sent back to the submitter for handling or if the log is clean, the numbered receipt will be sent. If you have questions about the web applet, contact contests@arrl.org And again... Many thanks to Bruce Horn, WA7BNM for his work in developing this web application. Bruce, you are one of the unsung heroes of contesting! 73 Dan Henderson, N1ND ARRL Contest Branch Manager

GET UR UHF DIODES

HP 5082-2835 diodes. 0.34Vf. Hot UHF/uWave detectors. NOS. Left over from industrial production. $1ea, add $3 per order for postage and handling, ie 10 for $13.00 Bill Taylor N3TR Oxford, PA 610-932-3762 n3tr@arrl.net

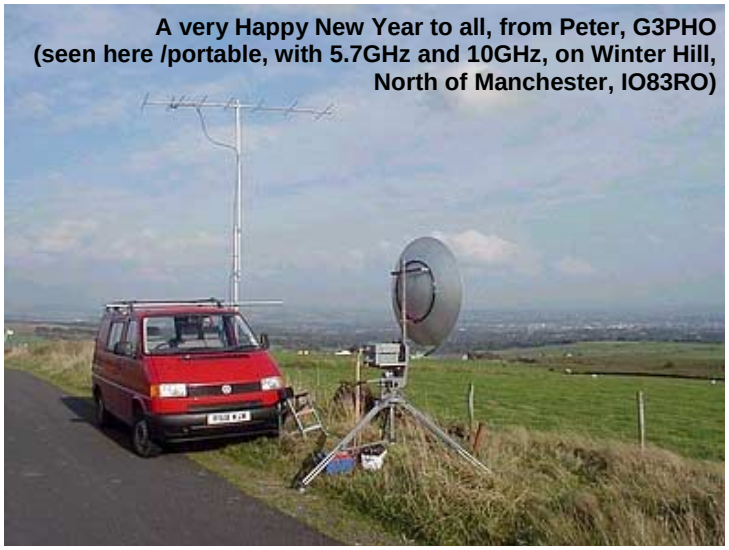
Central States VHF Conference

The 38th annual Central States VHF Society Conference will be held July 22-25, 2004 at the Delta Meadowvale Resort and Conference Centre in Mississauga (Toronto), Ontario, Canada. The technical talks and published proceedings are an important part of the conference. I would like to invite those of you wishing to share your knowledge and experiences to be a valued speaker at this year's conference. I also encourage you to seek out other people who could contribute to this year's talks. For those not wanting to present a paper, please consider submitting something for publication in the proceedings. Mini talks of 10-15 minutes are a great way of sharing a special project or event in which you are involved. Antennas are of particular interest (especially to me). Anyone up for discussing the pro's and cons of some of these new weak signal digital modes? Longer talks are also welcomed. The deadline for submitting final papers will be May 1, 2004. Submit your proposal as soon as possible to me in case there are similar talks in the works. A speaker application form will soon be available, so contact me with your proposed paper or any related questions. Bob Morton, Technical Chairman and V.P. VE3BFM@csvhfs.org

FAR Scholarships

The Foundation For Amateur Radio is accepting applications for 59 scholarships for the academic year 2004-2005. The scholarship program is described in the enclosed News Release. We sent you this news release because you are the editor of an Amateur Radio publication or club newsletter. We are anxious to reach as many deserving licensed Radio Amateurs as possible who are seeking additional education beyond high school. Please publish this news release in the January and February 2004 issues of your publication. Besides publishing the announcement in your club newsletters and on your Web pages, we would appreciate your mentioning these opportunities at your club meetings, on your nets, and during your training classes. Thank you very much for your assistance and encouragement to the volunteers involved in helping their fellow Radio Amateurs. 73, Diane Zimmerman, AA3OF Chairman, Scholarship Committee

FAR Scholarships Post Office Box 831 Riverdale, MD 20738



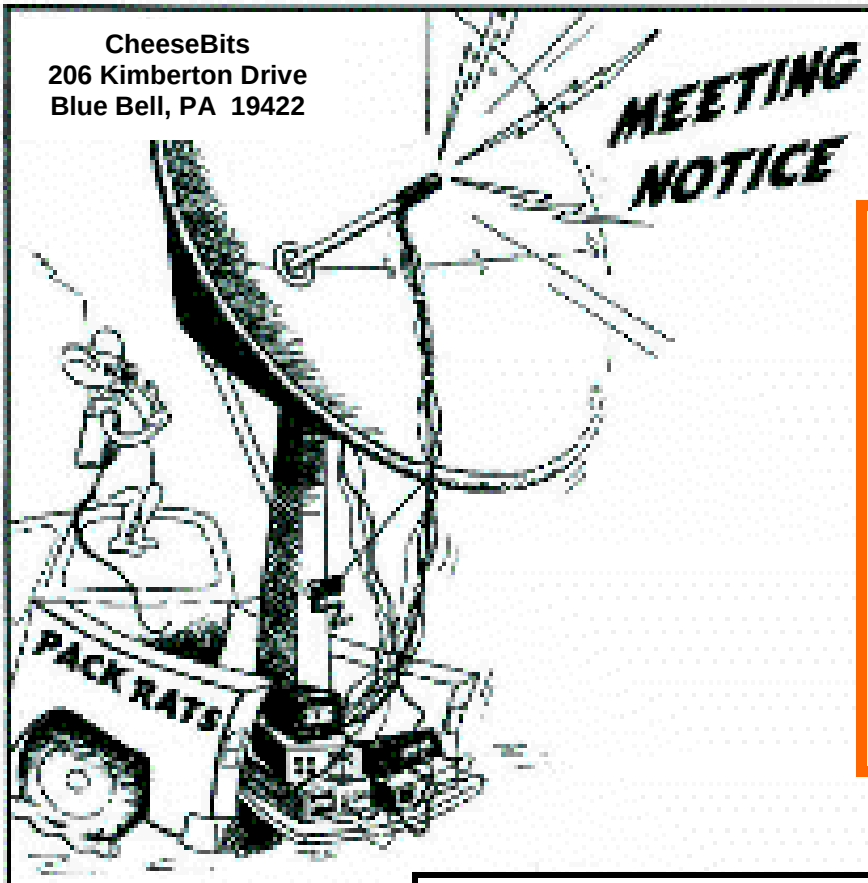
A very Happy New Year to all, from Peter, G3PHO (seen here /portable, with 5.7GHz and 10GHz, on Winter Hill, North of Manchester, IO83RO)

Web Sites

Peter Day, publisher of the UK Microwave Newsletter has a nice collection of photos and info at: http://www.g3pho.org.uk

N7EME's products that are on his site at http://www.jwmeng.com He sells completely assembled LO's based on your 10 MHz reference, also linkable to reference bases.

CheeseBits
206 Kimberton Drive
Blue Bell, PA 19422



C U at the Contest Wrap-up & brunch Sat Feb 7th, @QTH K1DS 9:30A-12PM

FIRST CLASS

MT. AIRY VHF RADIO CLUB, INC.