The Monitor

November 2002

Presidents Message

Greetings.

As most of you have heard the TSRC did very well during Field Day 2003. We place 4th in the 4A category and 10th in the country. Job well done to all who helped make this year a fun success. Start planning for next year. Let's do it again.

The work crew did a great job on cleaning and painting the large tower trailer so it will be ready to advertise. It looks almost too good to get rid of. Spring will be the small trailer's turn to be sandblasted and painted.

Winter has arrived so start planning those outside antenna projects. They always work better when done in inclement weather.

See you at the next meeting.

73 de Verne N5IEP

Upcoming Events

TSRC Meeting	Nov. 9, 2002, 9:00am Ramada Inn, WRJ, VT
TSRC Meeting	Dec 14, 2002, 9:00am Ramada Inn, WRJ, VT

TSRC AT CROPWALK 2002

Each year for the past few years, the sponsors of the CROPWALK in Post Mills, VT have asked TSRC to provide communications and emergency support to the effort. This is a fund raiser to help provide food for needy people. This year was no exception and four members of TSRC: Dot KA1LDS, Bill WB1BRE, Charlie N1AOK and Dave WA1ZCN provided the necessary support.

This is generally a small walk with up to 50 people taking part. The route is around Lake Fairlee and, with the foliage season upon us, it can be a very colorful event. This year we had overcast skies and some drizzle, but that didn't dampen the spirits of the walkers! The total route distance is 6.7 miles with the start/finish point at the Post Mills UCC church on Rte 244. The walkers started at about 2 PM on Sunday, October 13.

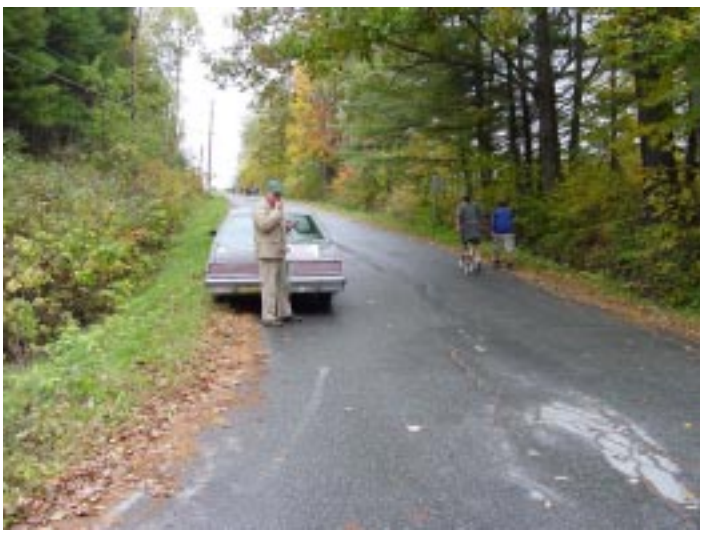
Dot was net control at the church, Bill was stationed at a road intersection part way through the walk and Dave and Charlie acted as rovers and maintained the lead and rear positions on the body of walkers on the busier stretches of road. Fortunately there were no real problems and we spent our time encouraging drivers to slow down in the vicinity of the walkers. A few people were unable to finish the walk, and we provided transportation to the finish line. Two checkpoints were established along the route by the church volunteers to provide water and apples to the walkers.

The walk was completed and all walkers and workers in and fed by 5PM. A big thanks to the TSRC crew for their efforts in keeping this a safe event and helping cause. The picture is courtesy of Charlie N1AOK.

Q. What does CROP stand for?

When CROP began in 1947 (under the wing of Church World Service, which was founded in 1946), the name was an acronym for the Christian Rural Overseas Program; its primary mission was to help Midwest farm families to share their grain with hungry neighbors in post-World War II Europe and Asia. Reflective of a program that for several decades has been both urban and rural, CROP is no longer an acronym; it is the name given to community, interfaith hunger education and fundraising events sponsored by Church World Service and organized by 22 CWS/CROP regional offices across the U.S. In some CWS/CROP regions, CROP has come to mean Communities Reaching Out to People.

From http://www.churchworldservice.org/CROP/CROPfaq.html#1



Disclaimer

The Small Wonder Labs' Rock-Mite Transceiver Kit

Reviewed by Ken, W1KRT

What would you say if I were to tell you you could buy a new HF transceiver kit for $25? Yes, twenty-five dollars. And yes, it is a real radio. It features a sensitive receiver, solid transmitter with a clear, clean signal, microprocessor control, full breakin (QSK),and a built-in electronic keyer. What is the catch? Well, to be honest, the radio does have limitations, but they are not as severe as one might expect in such an inexpensive unit.

I am talking about the "Rock Mite" transceiver kit from Small Wonder Labs, a small company in Connecticut opened up by Dave Benson, K1SWL back in 1994 (www.smallwonderlabs.com).The company slogan is "Thinking Small since 1994" and the product line is an impressive collection of kit radios and accessories for the low-power enthusiast. The Rock Mite is the latest in a series of innovative products aimed at the home builder. It is a monoband (40 or 20 meters) cw only QRP radio which is physically small (the circuit board is about 2x2.5 inches) but amazingly fun to use. Prototypes came out this Spring, and at this point Dave has sold probably two hundred units.

Details are simple. The radio has two crystals, either for 7.040 or 14.060 MHz (popular QRP frequencies). One crystal is the receiver front-end bandpass filter. It does a great job of preventing receiver overload from those European broadcast stations in or near the band. The other crystal is used as both the transmitter oscillator and the receiver beat-frequency oscillator, or BFO. On transmit the oscillator output is amplified to an output level of about 500 mW; on receive the frequency is shifted about 700Hz and used as the BFO for the direct conversion receiver. A microprocessor acts as the electronic keyer, which can be bypassed if you wish, and also enables a varactor diode circuit to shift the oscillator between the transmit and receive frequencies. Wait a minute! How do you tune this thing? You don't! The receiver, like the transmitter, is crystal controlled. In keeping with the QRP spirit of doing more with less, the single push button switch on the unit allows you to shift the oscillator state- either the "natural" frequency or the "shifted" frequency can be used to transmit. In effect you choose between two operating frequencies about 700 Hz apart derived from a single crystal. Selectivity, other than that provided by the front-end crystal, is provided by the organic filter between the operator's ears. Of course, one could add an audio filter of some sort, but such enhancements are left to the builder to select and provide.

For twenty-five bucks, postpaid, the kit comes with a beautiful circuit board and all board mounted components. The builder must provide power, key, headphone and antenna connectors, a case of some sort, and a switch. The SPST pushputton is used to select operating frequency (pushed momentarily), or when pushed and held, switches to code speed select mode. You hold the button until you hear the letter "s" in Morse. Then you adjust code speed - the dit paddle increases speed, the dah paddle decreases it. After a pause with no activity, the unit beeps once and reverts to normal operation, receiving signals. I built my Rock Mite, a 40 meter kit, into an Altoids box. (Altoids mints, an English product, come in a small tin with a hinged lid. Somehow, the Altoids tins have become a standard enclosure for QRP rigs and other small devices.With tongue in cheek, some QRP authors proclaim their designs to be "Altoids compliant".) As I am not mechanically gifted, it took longer to prepare the tin and mount the circuit board in it than it took to wire the PCB. Those who wish to can actually buy a custom made aluminum case for their Rock Mite or be a real minimalist and use it "bare". The idea is to make the rig your own, the way you want it.

Again the question- is this a real radio? Absolutely! My first five contacts, some from calling CQ, included stations in NY (2), NJ, OH, and Quebec. Signal reports were 559 to 589. The other stations were also QRP, except for the very first QSO, a ham in NY running 100 Watts- about 200 times my power! You can't just jump on the band any time you want with a rig like this- timing is everything- but I did get four of those first five contacts in the QRP ARCI contest on Saturday, Oct 19th. In general, it is probably easier to operate when the band is not so active, unless your "organic filter" is much sharper than mine. Am I ready to sell my other rigs and use the Rock-mite exclusively ? In a word, no. But if you have no other radio, you could get on the air with nothing more than one of these little gems and make real contacts and enjoy the thrill of communicating by means of a radio you built yourself. Not a bad return for the investment.

New 1.2Ghz FM Repeater Operational

FM Microwave repeater use is now a reality in the Manchester area! The New Hampshire Microwave Radio Association is pleased to announce that it's first sponsored 1.2Ghz FM repeater is on the air and ready for Amateur use in the greater Manchester area. This repeater is located at the summit of Mt. Uncanoonuc in nearby Goffstown, New Hampshire at an elevation of 1324 feet above sea level and can be accessed on the following frequencies:

Output 1290.100Mhz
Input 1270.100Mhz
(No PL Tone is required)

Users should adjust RIT on their receivers to -6Khz offset from 1290.100Mhz to compensate for the repeater transmitter's true output. This is characteristic of 900Mhz and above frequencies. Also, the use of a higher gain antenna is recommended to obtain decent use beyond the immediate Manchester area. There will be general repeater announcements posted on the club's website at http://k1ghz.home.attbi.com Please send questions or comments about the repeater to k1ghz@attbi.com

The club would like to thank it's members and the repeater site owner for their generous time, effort, equipment loans, and technical expertise to make this repeater a reality.

73, Bryan King K1SNH

ARRL RESURRECTS FREQUENCY MEASURING TEST

The Frequency Measuring Test (FMT) — an ARRL staple for nearly 50 years — will return in early November. A FMT transmission will replace the W1AW SSB bulletin on November 7, 0245 UTC (Wednesday, November 6, in US time zones). The resurrected FMT will kick off a series of measuring tests.

"These tests will exercise the capabilities of hams to measure important operating parameters, improve their understanding of complex radios and give them a better mental picture of their transmitted signals," Contributing Editor Ward Silver, N0AX, said in an October 2002 QST article describing the art and science of frequency measurement. "The goal is a more technically aware amateur confident of compliance with FCC regulations." Silver's article, "The ARRL Frequency Measuring Tests," appears on page 51 of the October issue.

Today's amateurs tend to take for granted the accuracy of their transceiver's frequency readout. But, as Silver notes in his article, relying simply on a transceiver's digital readouts could mean part of your signal is outside the band edge—in violation of FCC Part 97 rules. Transceiver or receiver readout accuracy "depends entirely on the quality of the receiver's master oscillator," he points out in QST.

Increasing technical quality of amateur gear was one of the primary reasons for the decline and fall of FMTs in 1980. In prior decades, however, thousands of amateurs took part in the FMTs, and participation was required of ARRL Official Observer and Official Relay System stations. The first FMT, held in October 1931, employed three transmitting stations—W1XP at Massachusetts Institute of Technology, W9XAN at Elgin Observatory in Illinois and W6XK at Don Lee Broadcasting System in Los Angeles—and drew more than 200 measurement reports.

"Winners demonstrated better than 99.99% accuracy, and more than half received certificates for better than 99.90% accuracy," Silver reported—not too shabby for the state of the art back then.

The 2002 FMT will begin at the appointed time—0245 UTC November 7 (9:45 PM EST November 6)—with a general Morse code "QST" from W1AW on four amateur frequencies. The test itself will consist of 20 seconds of carrier followed by a series of CW dits followed by a station ID. The test will last about five minutes and will conclude with a series of Vs and another station ID. The approximate frequencies are 3580, 7047, 14,048 and 21,068 kHz.

FMT 2002 participants should include time of reception, measured frequency and signal report, as well as their name, call sign and location. Participants are encouraged to submit reports on more than one of the frequencies. A Certificate of Participation will be available to all who send in reports. Those who come closest to the measured frequency will be listed in the test report and will receive special recognition.

Send FMT 2002 entries postmarked by December 6, 2002, to W1AW/FMT, 225 Main St, Newington, CT 06111. More information and background on the 2002 FMT is available on the ARRL Frequency Measuring Tests - Supplement page <http://www.arrl.org/w1aw/fmt/>.

VANITY APPLICATION REMINDERS BEAR REPEATING

When applying for a vanity call sign, the application purpose on FCC Form 605 should always be "Modification" (MD). ARRL VEC Manager Bart Jahnke, W9JJ, advises that vanity applicants within their 90-day license renewal window should not attempt to do a "Renewal/Modification" (RM) when applying for a vanity call sign.

"I would recommend that you renew first," Jahnke said. "If vanity processing is delayed for some reason — as happened last fall and spring — your license could expire while awaiting processing, and your application would be dismissed."

The fee for a vanity call sign increased to $14.50 in September. Jahnke says it is possible for vanity applicants to register a name, address or contact information (eg, e-mail or telephone number) change with the FCC while also applying for a vanity call sign, since both actions can be dealt with as a Modification. Note, however, that if you're only changing such data as name, address or contact information and not applying for a new call sign, you should check "Administrative Update" (AU) as the application purpose—and, yes, this is confusing.

By the way, unlike a vanity application, which requires a fee and goes to the FCC's fiscal agent in Pittsburgh, an Administrative Update application requires no fee and goes directly to the FCC in Gettysburg.

Amateur applications may be filed electronically via the FCC's ULS Web site <http://wireless.fcc.gov/uls/> or on paper (using FCC Form 605). The FCC says that anyone filing any application with the FCC—whether for a vanity, license renewal, upgrade or modification—first must be registered with the Commission Registration System (CORES) and have obtained an FCC Registration Number (FRN).

For more information on vanity filing, visit the Amateur Radio Vanity Call Signs page <http://www.arrl.org/arrlvec/vanity.html> on the ARRL Web site.

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Part 97	http://www.arrl.org/field/regulations/news/part97/

Don't forget to check the TSRC Home Page!
Make it your default start page!
http://www.w1fn.org

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