



SARA Newsletter

February 2004

Shreveport Amateur Radio Association

Meeting:

First Thursday of each month at 6:30 P.M. in the Bossier Main Library History Center

SARA Net:

Each Wednesday evening at 8:30 P.M.

Local Amateur Information

Available at:

www.k5sar.com
www.qsl.net/nwlarl/

SARA Repeaters:

145.050 - K5SAR
DX Packet Cluster
145.110 - N5FJ
146.700 - K5KDQ
146.820 - K5SL
440.900 - N5FJ

2004 Club Officers

President – [David Crosby, K5SRZ](#)
Vice President – [Glenn Pettiet, K5TGP](#)
Treasurer – [Randy Fulco, K5SL](#)
Secretary – [Laura Webb, KD5IHT](#)

Getting Ready for the Fox Hunt **ACTIVE ATTENUATOR**

Joe Leggio WB2HOL

http://home.att.net/~jleggio/projects/rdf/a_atten.htm

How it works This active attenuator works as a simple mixer. A signal from a 1 MHz oscillator is mixed with the received signal in a 1N914 diode. The 1000 ohm potentiometer adjusts the level of the local oscillator fed to the mixer diode.

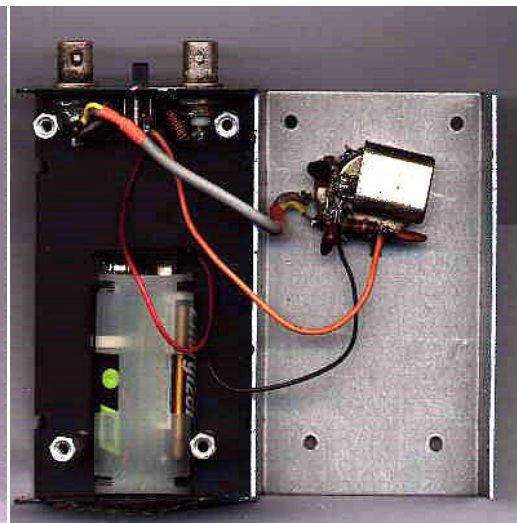
It is possible to get over 100 db attenuation using this device. This circuit is a variation of one first described in the November, 1992 issue of QST. That circuit was designed by PA0ZR. It used a L/C tuned 500 KHz oscillator.

I used a 1 MHz crystal oscillator and it made construction even simpler than the original unit.



FRONT VIEW OF

ACTIVE ATTENUATOR



INSIDE VIEW OF ACTIVE ATTENUATOR

This attenuator is used by tuning the receiver 1 MHz above or below the frequency of the transmitter. By adjusting the oscillator level fed to the mixer diode, the signal output to the receiver will be attenuated.

Note: You may also tune your receiver 2 MHz above or below the frequency of the

transmitter and get even more attenuation. (thanks to VE3EFY for this tip)

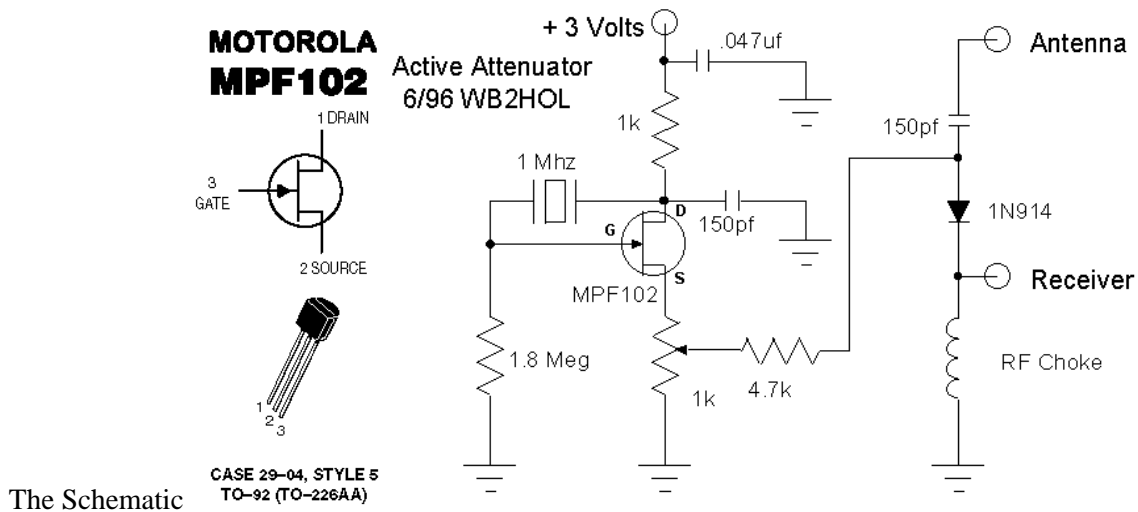
Technical Hints If you find that this circuit does not oscillate with your crystal you might need to add a small capacitor (anything from 5pf to 25pf) from the gate of the FET to ground. It may also help to reduce the 150pf capacitor connected from the drain to ground to 100pf.

These two capacitors, along with the crystal, provide a 360 degree phase shift from the drain to the gate of the FET. The circuit pictured in the schematic below is a Pierce oscillator and relies upon the gate-to-source capacitance of the FET to form part of its phase shift network. If there is not sufficient stray capacitance to ground from the gate of the FET, you may need to add the additional capacitor. VE3EFY reported that his oscillator would not function below 4.5 volts. He used a 9 volt battery to power his unit. The battery should last a long time, he measured the current drain to be 1.8 mA.

Construction I built this unit "dead-bug" style. Most of the components were mounted and supported by their own leads on the back of the 1000 ohm potentiometer. The RF Choke connected between the output connector and ground was made by winding about 20 turns of 22 guage wire on a 1/8 inch drill bit. The coil was then slid off of the form and wired in place. If you want to use a commercially available coil, a value of 3.3uh should work just fine. That was the value specified in the original article.

I mounted the 150pf capacitor, the 1N914 diode, and the RF Choke on the inside panel of the attenuator box between the two BNC connectors. I also mounted a slide switch between the BNC connectors so I could conserve the batteries when the unit was not being used on a hunt.

Note: The MPF-102 Field Effect Transistor has an unusual pin-out compared to general purpose transistors. The GATE is **not** the lead in the center. The pin-out for the MOTOROLA MPF-102 is illustrated below. (The Radio-Shack MPF-102 I used had the same pin-out)



BPL Update

Richard, N5PFZ

The FCC is moving forwards with a Notice of Proposed Rule Making on BPL. This is obviously bad news but how bad is yet to be determined. Please consider the following ideas before the next board meeting in March:

1. Placing a written comment, through the FCC website, against BPL when the comment period opens, www.fcc.gov (look toward the middle of this page for the comments by the FCC on BPL NPRM.)
2. Contacting Senator(s) BreauX and Landrieu as well as Congressman McCrery with a letter asking them to attend a SARA meeting dedicated to the BPL issue or a specially called meeting that fits their schedules. I

have spoken with the local offices and they recommend sending a fax to the respective D.C. offices for this request.

3. Review the comments, documents, filings and petitions of other concerned parties and decide if it would be beneficial to join these by signature or statement from the club.

<http://www.remote.arrl.org/news/stories/2004/02/12/5/?nc=1>, <http://www.remote.arrl.org/tis/info/HTML/plc/>, www.antenna-consortium.org,

It's my opinion we need to develop the written documents as soon as possible with the appropriate caution to insure we communicate our concerns clearly. I would like for all of us to work on this over the next few weeks. If you have any thoughts please send them out when you have an opportunity.

HF Contests

ARRL Contester's Rate Sheet 25 February 2004

Spartan Sprint - CW - sponsored by the Adventure Radio Society from 0200Z - 0400Z Mar 4 (Monday evening in the U.S.). Held on the first Monday of every month. Frequencies (MHz): 3.560, 7.040, 14.060, 21.060, 28.060 (QRP calling frequencies). Categories: SO. Exchange: RST, S/P/C, and power output. Score: "Skinny" division--total QSOs / total station weight, "Tubby" division--total QSOs. For more information: http://www.arsqrp.com/ars/pages/spartan_sprints/ss_rules_new.html. Logs due on Wednesday after the contest via the ARS Web site or to hjohnc@core.com.

ARRL International DX Contest - Phone - 0000Z Mar 6 - 2400Z Mar 7 Frequencies: 160 - 10 meters. Categories: SOSB, SOAB (HP >150W, LP, QRP <5W), MS, M2, MM. Exchange: RST + State or Province or Power (KH6 and KL7 count as DX). QSO Points: 3 pts/QSO. Score: QSO points x DXCC entities (DX counts states + provinces). For more information: <http://www.arrl.org/contests/rules>. Logs due 6 Apr to dxphone@arrl.org (Cabrillo format only) or DX CW, ARRL, 225 Main St., Newington, CT 06111.

DARC 10-Meter Digital "Corona" - RTTY/AMTOR/FACTOR/PSK31/Clover, sponsored by Deutscher Amateur Radio Club from 1100Z -- 1700Z Mar 2. Frequencies (MHz): 28.050-28.150, work stations once per mode. Categories: SO, SWL. Exchange: RST + serial number. QSO Points: 1 pt/QSO. Score: QSO points x DXCC entities + WAE countries + JA/VE/W call districts (all counted only once). For more information: <http://www.darc.de/referate/dx/>. Logs due 4 weeks after the contest to df5bx@darc.de or Werner Ludwig, DF5BX, PO Box 1270, D-49110 Georgsmarienhuetten, Germany.

Open Ukraine RTTY Championship - sponsored by the Ukrainian Amateur Radio League (UARL) from 2200Z Mar 6 - 0159Z Mar 7 (Low Bands - 160 and 80 meters - two separate 2 hour periods) and 0800Z - 1159Z Mar 7 (High Bands 40 - 10 meters). Categories: SOAB, SOSB, and MO. Exchange: Two letter regional abbreviation (see Web site) and serial number. Start serial numbers over for High Band portion. QSO Points: 2 pts/QSO and 10 pts for each new region. For more information: <http://uarl.com.ua/oprttych2004eng.htm>. Logs due by 7 Apr to krs@model.poltava.ua or George Ignatov UT1HT, PO Box 87, Kremenchug-21, Ukraine, 39621.

DF Antenna Fox Hunt

Build it and they will come.

