

## New program "Not a Trap"

**Source:** <http://sci.tech-archive.net/Archive/sci.electronics.design/2004-09/5489.html>

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Extract from program notes.

Program Name: NOTATRAP.exe Author: R.J.Edwards G4FGQ

### A TWO-BAND ANTENNA WIRE LOADED WITH AN L & C PARALLEL-TUNED CIRCUIT

The LC parallel-tuned circuit is constructed exactly like an antenna trap.

It

is located in the antenna wire and used as L or C loading at 2 other

resonant

frequencies. Parallel-tuned circuits have a reactive impedance on either

side

of resonance. On the low frequency side there is a +ve inductive reactance.

On

the high frequency side there is a -ve capacitive reactance.

The purpose of the LC loading components is to detune the antenna wire from

its natural 1/4-wave resonant frequency. When the loading circuit is

behaving

as an inductance the antenna resonant frequency is reduced. When the loading

circuit is behaving as a capacitor the antenna resonant frequency is

increased.

The pair of resonant frequencies depend on the LC ratio, on wire length, and

on the location of the LC loading circuit along the wire.

For a given loading location along the wire and a given pair of resonant

freq-

encies this program calculates the L and C loading-component values. The

pair

of frequencies lie above and below the unloaded resonant frequency of the

wire.

The LC circuit behaves as an ordinary trap at its own resonant frequency

which,

by experiment, can sometimes be arranged to fall into a third amateur band.

But

to calculate such a fortunate coincidence is beyond my elderly patience.

sci.electronics.design: New program "Not a Trap"

The program has a built in signal source which generates a wide-ranging testing frequency which can be used to 'measure' the input impedance of the antenna versus frequency, checking resonant frequencies and other antenna characteristics.

Download program NOTATRAP from website below and run immediately.

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Regards from Reg, G4FGQ  
For Free Radio Design Software go to  
<http://www.btinternet.com/~g4fgq.regp>

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