



SHACKNEWS

HIGHVELD AMATEUR RADIO CLUB

FEBRUARY 2010

COMMUNICATION IS THE NAME OF THE GAME

Meeting At the meeting held on Saturday we had a discussion on lightning preventative measures in the amateur shack. This was the first meeting held at the new venue. The turnout was not great as a number of members were sick and others away on holiday. The next official meeting will be held on the 17 March.

SSC Meeting The next meeting is to be held at the home of Berridge and Sandra on the 20 March.

---oooOOOooo---

Did you hear about the Texas teacher who was helping one of her kindergarten students put on his cowboy boots?

He asked for help and she could see why.

Even with her pulling and him pushing, the little boots still didn't want to go on. By the time they got the second boot on, she had worked up a sweat.

She almost cried when the little boy said, "Teacher, they're on the wrong feet." She looked, and sure enough, they were. It wasn't any easier pulling the boots off than it was putting them on. She managed to keep her cool as together they worked to get the boots back on, this time on the right feet.

He then announced, "These aren't my boots."

She bit her tongue rather than get right in his face and scream, "Why didn't you say so?" like she wanted to. Once again, she struggled to help him pull the ill-fitting boots off his little feet. No sooner had they gotten the boots off when he said, "They're my brother's boots. My mom made me wear them."

Now she didn't know if she should laugh or cry. But, she mustered up what grace and courage she had left to wrestle the boots on his feet again.

Helping him into his coat, she asked, "Now, where are your mittens?"

He said, "I stuffed them in the toes of my boots"

She will be eligible for parole in three years!

Grandma's Birth control pills

The doctor that had been seeing an 80-year-old woman for most of her life finally retired. At her next checkup, the new doctor told her to bring a list of all the medicines that had been prescribed for her. As the young doctor was looking through these, his eyes grew wide as he realized she had a prescription for birth control pills.

"Mrs. Smith, do you realize these are BIRTH CONTROL pills?!"

"Yes, they help me sleep at night."

"Mrs. Smith, I assure you there is absolutely NOTHING in these that could possibly help you sleep!" (cont'd page 2)

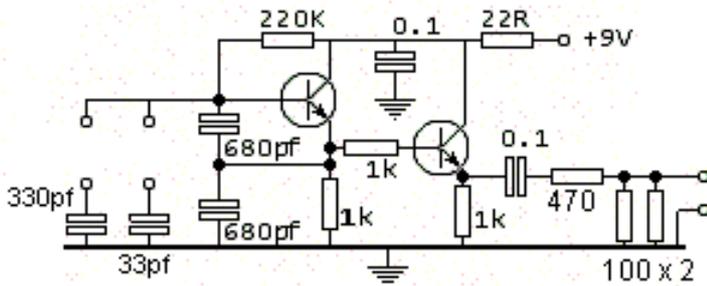
1. Keep horizontal antennas as high as possible - at least 25 to 30 feet (7.5 to 10M) above the ground or buildings.
2. Bend the dipole into a vee if you like, but avoid bending the ends if at all possible. Don't be overly concerned with the antenna's orientation.
3. Feed horizontal flattops at the center rather than at the ends; balun matching coils are nice, but are not absolutely necessary.
4. Use high-quality coax feedline; its advantages far outweigh its disadvantages. Small-diameter coax is okay up to about 500 Watts.
5. Vertical antennas are good, provided they are worked against a good ground system. But they tend to be noisy on receiving and may aggravate TVI and BCI.
6. Protect your antenna against lightning and ground it whenever you're not using it. You may be very sorry if you don't!
7. Use a SWR meter or what-ever to check out and adjust your antenna, but don't get hung up on SWR. It can't always work out to 1:1.
8. Install a good station ground using connections to cold-water pipes and/or ground rods driven into the earth. (This goes hand in hand with lightning protection.)
9. Use an antenna coupler or matching network in the coax line if for no other reason than getting added harmonic suppression. The ones with built-in SWR bridges and RF power meters are very handy and allow continuous monitoring.
10. Use a low-pass filter between the transmitter or transceiver and the antenna coupler - don't give harmonic-caused TV! a chance!
11. Multiband trap antennas are fine, but can be frustrating to adjust if you've never "pruned" an antenna before. Be prepared to do some tweaking to get consistent performance from band to band.
12. Beams, rhombics, and other advanced antennas will add punch to your signal, but cut your teeth on some basic types first.
13. If your antenna doesn't work properly, check for continuity and look for shorts in the line; also check the SWR carefully. Double check all solder joints and make sure all connections are mechanically sound. Above all, don't try to force power into an antenna that doesn't want to load up - find out what the problem is before ruining your equipment.

Grandma's Birth control pills (continued from page 1)

She reached out and patted the young Doctor's knee. "Yes, dear, I know that. but every morning, I grind one up and mix it in the glass of orange juice that my 16 year old granddaughter drinks... And believe me, it helps me sleep at night.

Measuring Inductors using a frequency counter

Test Oscillator



Winding coils and finding their exact inductance is a problem for most beginners. Capacitors and resistors come marked but you have to build your own inductors using whatever comes handy.

The test oscillator shown in here is a very handy thing that can be used to easily measure the inductances and a little bit of work on a calculator.

The Circuit

None of the capacitor values are critical. If you don't have 680pf handy, try 560pf or even 100pf if those are the only ones you have. Almost NPN transistor will work. The output is attenuated down to a 50 ohms impedance through a series drop formed by the 470 ohms and a 50 ohms (actually two 100 ohms resistors tied in parallel). Although it is shown it to work with a 9voltage supply (using a PP3 battery), you can easily power it by the 12v bench supply.

Operation

Solder the ends of the coil between the 'hot' end of the 330pf capacitor and the base of the oscillator transistor. Power up the oscillator, connect it's output to your frequency counter. Read the frequency.

Calculating the Inductance

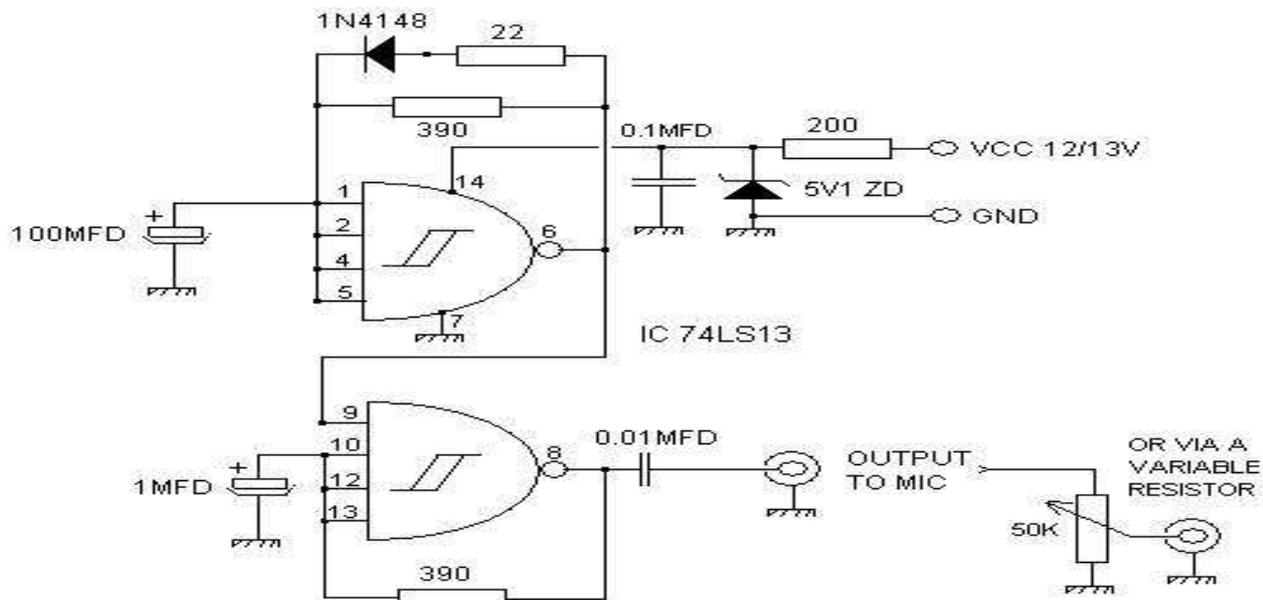
1. First, figure out the total capacitance in the circuit. For instance in the circuit there are two 680pfs in series with each other, their effective capacitance will be 340pf. Then the 330pf between the ground and the inductor will also appear to be in series with the 340pf, hence the effective capacitance will be 165pf. Remember this value for all your calculations in the future.
2. Now, divide 1000,0000 by 6.28, and then divide that by the frequency read out. Square the result and then divide it by the capacitance value from step 1. You have the inductance in uH (micro Henries).

There is a bit of calculation involved. But it is pretty accurate and easy way of doing it. This is essentially what all the LC meters do. Except that you have to manually calculate in our method and the LC meter does it for you.

This method also shows how you can make your own measurements that are as good as those possible with professional equipment if you spend just a little more effort (like using a calculator) to arrive the readings.

This is one of the many applications we will see for this interesting test circuit in combination with the frequency counter.

TONE PULSING UNIT FOR TUNING UP
(SOME CALLED IT THE WOODPECKER)



BUILT ON A SMALL PIECE OF PERFBOARD. IT IS FED INTO THE MIC SOCKET OF AN SSB TRANSMITTER AND HAS A LOW DUTY CYCLE PULSING TONE. WE USED TO USE THIS TO GOOD EFFECT YEARS AGO WHEN TUNING UP VALVE P/A'S. IT MAY STILL BE OF USE TODAY WITH SOLID STATE RIGS AND AUTO ATU'S.

CLUB INFORMATION

Postal address PO Box 19937 Sunward Park 1470

Website <http://www.qsl.net/zs6hvb/>

e-mail zs6hvb@gmail.com

Repeater 145.1875 MHz input - 145.7875 MHz output

Linked to 70 cm - 438.850 Mhz (Sunday bulletins)

Bulletins Sunday morning - 145.7875 MHz & 7062 KHz @ 08h45.
Relay - 80M - 3662KHz

Monthly meeting venue

Germiston Methodist Church
Coffee Bar
Lady Duncan Rd
Germiston

3rd Saturday of the month at 14:30

Committee

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Club bank details

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