



SHACKNEWS

HIGHVELD AMATEUR RADIO CLUB

OCTOBER 2008

COMMUNICATION IS THE NAME OF THE GAME

Meeting At the meeting Frank ZS6TMV gave a most interesting talk on Spread Spectrum communication. This the future of communication. At the forthcoming meeting Yvonne will give a talk on Micro waves. To those who have not paid their subscriptions please do so at this meeting. The end-of -year xmas do will be for currently paid up members and their spouses.

SSC meeting This took the form of a braai at the home of Rex & Ingrid. According to the register there were 18 persons present. Thanks once again to Rex and Ingrid for the use of their property as well as the braai fires.

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Mobile operation years past or what!



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Understanding Engineers - One

Two engineering students were walking across a university campus when one said, "Where did you get such a great bike?"

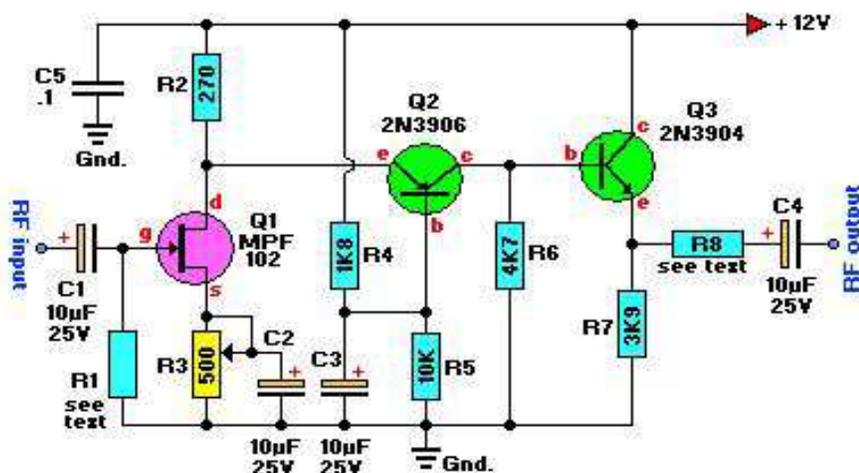
The second engineer replied, "Well, I was walking along yesterday minding my own business, when a beautiful woman rode up on this bike, threw it to the ground, took off all her clothes and said, "Take what you want."

The first engineer nodded approvingly and said, "Good choice; the clothes probably wouldn't have fitted you anyway."

Understanding Engineers - Two

To the optimist, the glass is half full. To the pessimist, the glass is half empty. To the engineer, the glass is twice as big as it needs to be.

Broadcast-Band RF Amplifier



Parts List:

R1 = see text

R2 = 270 ohms

R3 = 500 ohm potentiometer

R4 = 1K8 (1800 ohms)

R5 = 10K (10,000 ohms)

R6 = 4K7 (4700 ohms)

R7 = 3K9 (3900 ohms)

R8 = see text

C1,C2,C3,C4 = 10uF, 25volt electrolytic

C5 = 0.1uF, ceramic disc

Q1 = MPF102 J-FET, or use NTE451

Q2 = 2N3906, PNP-transistor (or use NTE159)

Q3 = 2N3904, NPN-transistor (or use NTE123AP)
see note about the 'AP' extension.

Construction

The circuit can be wired up on a piece of perfboard; a PC board is not necessary, although one can be used. However you build the circuit, keep lead lengths short and direct, and separate the input and output stages. You may have to install the amplifier in your receiver. Otherwise, installing it in a metal case will reduce stray-signal pickup. You'll have to provide appropriate connectors on the case. Connect the amplifier to the antenna and radio using short lengths of coax.

The circuit has only one adjustment. Connect a source of 12-volt DC power to the circuit, and adjust R3 so that there is a 1.6-volt drop across R2.

If you're not sure of the impedance of your antenna, connect a 500-ohm potentiometer for R1, and adjust it for best reception. Then substitute a fixed-value resistor for the potentiometer.

You may want to follow the same procedure with the output circuit (R8), if you're not sure of your receiver's input impedance. Common impedances are 50, 75, and 300 ohms, so the same 500-ohm potentiometer can be used.

You can connect an external antenna through the amplifier to a receiver that has only a ferrite rod antenna. Connect the amplifier's output to a coil composed of 10-15 turns of #30 hook-up wire wound around the existing ferrite core, near the existing winding. To obtain best reception, experiment with the number of turns and their placement. You may need to reverse the connection to the coil if the output is weak.

Submitted by Harold ZS6CAR

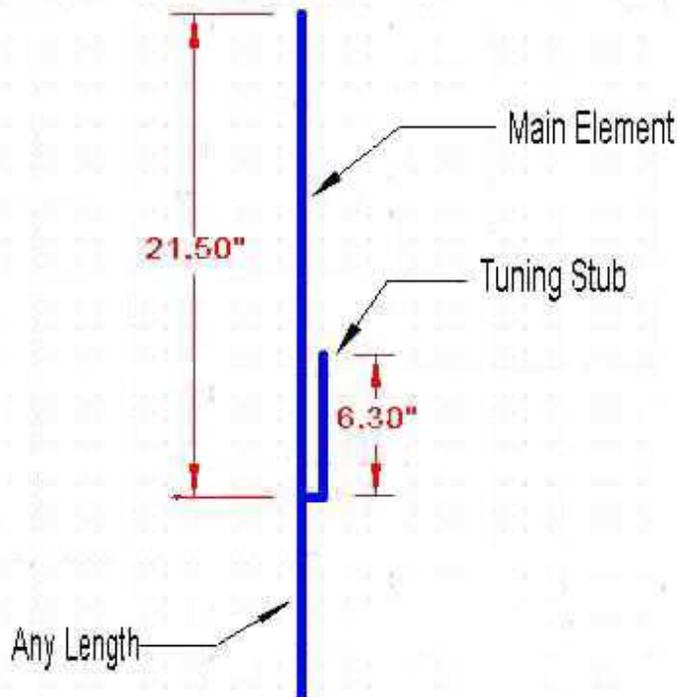
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Morse Code ring tone generator

<http://www.planetofnoise.com/midi/morse2mid.php>

Go to this site to generate a ring tone in Morse code. It can then be saved as a midi file. Some cell phones can play the midi and others require mp3 or aac. You can mail it to zs6bfl@telkomsa.net and I will convert and send it back to you.

430 Mhz. J-Pole Antenna



Here is a 70cm J-Pole antenna that is inexpensive, and easy to build. Use 1/2 inch copper pipe, and the associated fittings necessary. The dimensions aren't typical however; this is what it took to get its SWR low.

The above dimensions for the J-pole are in inches. Measurements on overall length, and stub length are from the centre line of the separation pipe (horizontal) to the top of the antenna. The Connect at measurement is 1 1/2 inches from the top of the horizontal member to the point of connection. The distance between the main element of the j-pole centre line and the tuning stub centre line is 0.75".

To achieve this dimension use a 1/2" pipe Tee, and a "street elbow". Before assembling them together, cut off the excess pipe at the joint before assembly. Cut a length of RG-213 foam coax to a length of 67" for the feed line, and

coil up 4 turns (as small as you can get it) just below the horizontal part of the matching section. This will de-couple the feed line from the j-pole antenna, and help provide some lightning protection. Connect the centre conductor of the coax to the main element, and the shield to the tuning stub of the j-pole.

In all of the above dimensions, they are to be considered starting points. Temporarily attach the coax using 1-inch hose clamps, and adjust the coax connection first to the lowest SWR. From there adjust the length of the main element. Then start over by re-adjusting the coax connection.

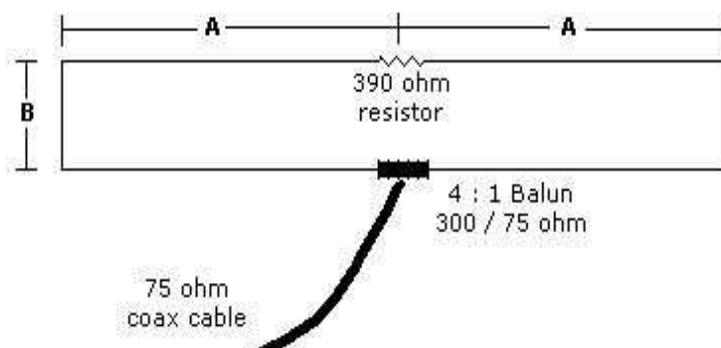
The point where the tuning stub attaches to the main element is the j-pole antenna's ground point. That is why you can make it any length. Solder another elbow about 1 1/2 feet below the ground point, and side mount it. This too will help with lightning protection. (provided your tower is properly earthed!)

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Terminated Tilted Folded Dipole (Something to experiment with)

Now here is a little gem. The terminated tilted folded dipole is bound to give a "rush of blood to the head" of any avid DX'er

The terminated tilted folded dipole is somewhat similar to the half wave folded dipole. The claims for its performance are quite astonishing. The terminated tilted folded dipole is claimed to have a bandwidth of something like 5 or 6 to one, been extensively tested and adopted by the US Navy, easy to construct from readily available materials and, has a feed point impedance of around 300 ohms



The dimensions "A" and "B" for a terminated tilted folded dipole are as follows:

Each leg "A" = [2 X pi (15.25 / Fo)] and;

Distance "B" = [2 X pi (0.915 / Fo)]

where in both instances 2 X pi = 6.28 and Fo is in Mhz.

Understanding Engineers - Three

A priest, a doctor, and an engineer were waiting one morning for a particularly slow group of golfers. The engineer fumed, "What's with those guys? We must have been waiting for fifteen minutes!" The doctor chimed in, "I don't know, but I've never seen such inept golf!" The priest said, "Here comes the green-keeper. Let's have a word with him." He said, "Hello George, what's wrong with that group ahead of us? They're rather slow, aren't they?"

The green-keeper replied, "Oh, yes. That's a group of blind firemen. They lost their sight saving our clubhouse from a fire last year, so we always let them play for free anytime."

The group fell silent for a moment. The priest said, "That's so sad. I think I will say a special prayer for them tonight."

The doctor said, "Good idea. I'm going to contact my ophthalmologist colleague and see if there's anything he can do for them."

The engineer said, "Why can't they play at night?"

TIME TO PRAY

A pastor asked a little boy if he said his prayers every night.

'Yes, sir,' the boy replied.

'And, do you always say them in the morning, too?' the pastor asked.

'No sir,' the boy replied. 'I ain't scared in the daytime.'

CLUB INFORMATION

Postal address PO Box 19937 Sunward Park 1470

Monthly meeting venue

Website <http://www.qsl.net/zs6hvb/>
<http://www.qsl.net/zs6ssc/>

Witwatersrand Rifles HQ
Cnr Barlow and Cavaleros Str
Industries West
Germiston

e-mail zs6hvb@gmail.com

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

First Saturday of the month at 14:30

Committee

| | | | |
|---------------------------|---------------------|--------|--------------|
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Repeater 145.1875 MHz input - 145.7875 MHz output
Linked on a Sunday morning during bulletin time to 70 cm - 438.850 MHz