SHACKNEWS

HIGHVELD AMATEUR RADIO CLUB

NOVEMBER 2008

COMMUNICATION IS THE NAME OF THE GAME

Meeting The monthly meeting with a difference, Yvonne ZR6TBL showed all present what you can do with a conventional kitchen microwave. Absolutely amazing and yes it works we even had a chance to test the final product. Will ask the webmaster to put the recipes on the club web site.

The end-of -year Xmas do will be for currently paid up members and their spouses.

To those who have not paid their subscriptions yet you can make a direct deposit into the club bank account. Please use your call sign or name as a reference for identification purposes on the bank statement. Banking details on the last page.

SSC meeting No meeting this month

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Learn international English. Just for laughter....

BELGRADE (SERBIA) ELEVATOR: To move the cabin, push button for wishing floor. If the cabin should enter more persons, each one should press a number of wishing floor. Driving then going alphabetically by national order.

PARIS HOTEL ELEVATOR: Please leave your values at the front desk.

YUGOSLAVIAN HOTEL: The flattening of underwear with pleasure is the job of the chambermaid.

JAPANESE HOTEL: You are invited to take advantage of the chambermaid.

MOSCOW HOTEL: You are welcome to visit the cemetery where Famous Russian and Soviet composers, artists and writers are buried daily except Thursday.

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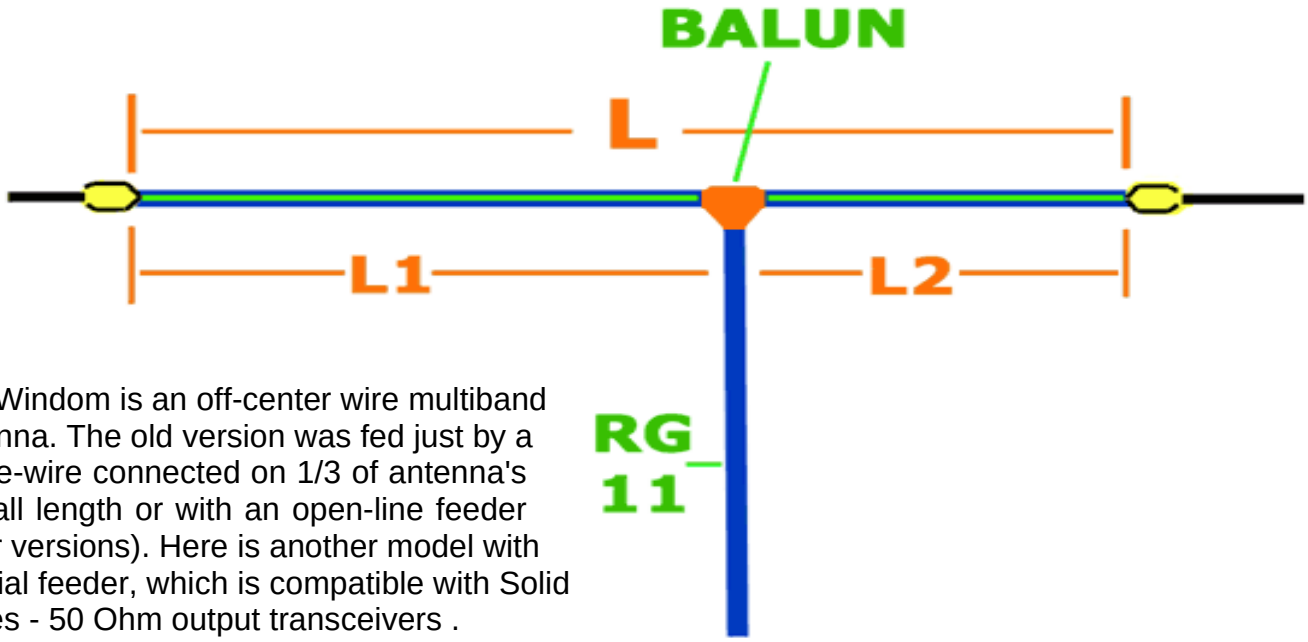
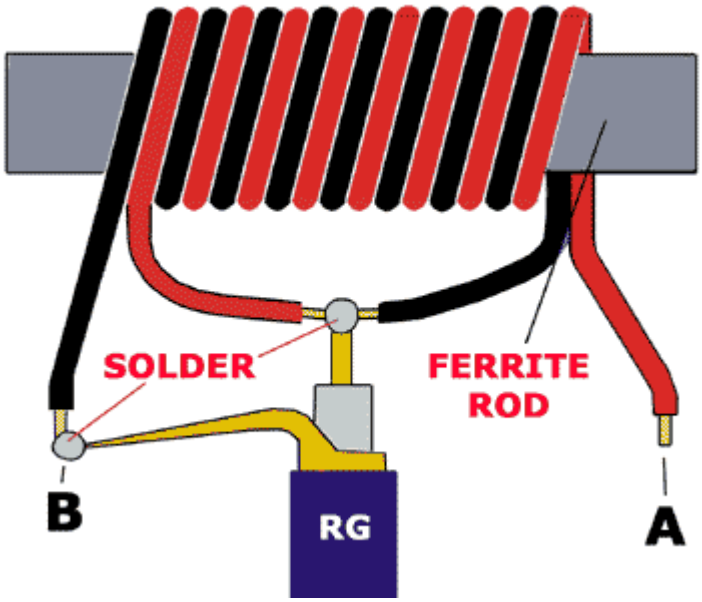
Coaxial fed Windom Antenna



The Windom is an off-center wire multiband Antenna. The old version was fed just by a single-wire connected on 1/3 of antenna's overall length or with an open-line feeder (later versions). Here is another model with coaxial feeder, which is compatible with Solid States - 50 Ohm output transceivers .

The feed-point of this type of antennas (off center) has an impedance of about 300 Ohms. With a 4:1 Balun transformer is possible to feed easily by using a coaxial cable of 75 Ohms (300/4=75), like RG59 or RG11. In practice, under this condition we have an SWR ratio of 1:1,5, but that is no problem if your transceiver has an antenna tuner. The SWR 1:1,5 it can be easily minimized by using the antenna tuner.
The antenna works on all bands between 3.5 - 28 MHZ including WARC bands other than 10.1 MHZ. The accepted power with this balun is 300 W and the SWR is quite low, not more than 2:1 at the band edges.



One or two ferrite rods are necessary for the Balun, depending on output power of your transmitter. The wire is a simple electrical-wire 1 - 1,5 mm (Double "Red-Black" wire for Loud Speakers) 9-10 turns on ferrite rod is enough but keep in mind before winding: "cut" the two cables (red & black in the picture above) of equal length.
The "B" point of balun is being connected with "L1" part of antenna and the "A" point with "L2"

This aerial can be manufactured in two versions:

1) Full size with an overall length (L) of 41 m. In this case the "L1" is 27.5 m and the "L2" is 13.5 m.

2) Half size with an overall length of 20.5 meters. L1= 13.75 & L2 = 6.75 m
ATTENTION: the small version works only for 10, 20 & 40 meter Bands.

Actually, this antenna is compromise but in practice works very well. On the other hand it is a simple wire multi-band antenna, it can be manufactured very easily by anyone and that is a great advantage. On the 40 m band the antenna is about -6 Db (1 S) lower than a full size dipole but in practice it has the same behaviour on local and DX stations. On 20 meter Band the antenna is excellent. The multi lobe radiation pattern of the antenna gives excellent results and is much better than a dipole.
The behaviour of this antenna on 10M Band is a "mystery". Some times it is excellent on DX but some other times its like a "Dummy load"! Probably, because the antenna is two wave lengths. It has a very complicated radiation pattern on this band.

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Antenna Snippets

Antenna Polarisation

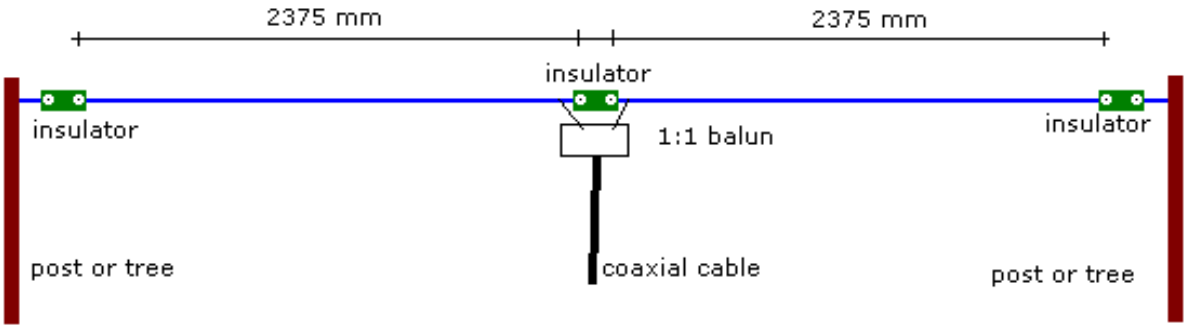
Depending upon how the antenna is orientated physically determines it's polarisation. An antenna erected vertically is said to be "vertically polarised" while an antenna erected horizontally is said (not so surprising) to be "horizontally polarised". Other specialised antennas exist with "cross polarisation", having both vertical and horizontal components and we can have "circular polarisation".

Note that when a signal is transmitted at one polarisation but received at a different polarisation there exists a great many decibels of loss.

This is quite significant and is often taken advantage of when TV channels and other services are allocated. If there is a chance of co-channel interference then the license will stipulate a different polarisation. Have you ever noticed vertical and horizontal TV antennas in some areas. Now you know why.

Half wave dipole antenna

The half wave dipole antenna becomes quite common where space permits. It can be erected vertically but is more often than not erected horizontally for practical reasons.



NOT TO SCALE

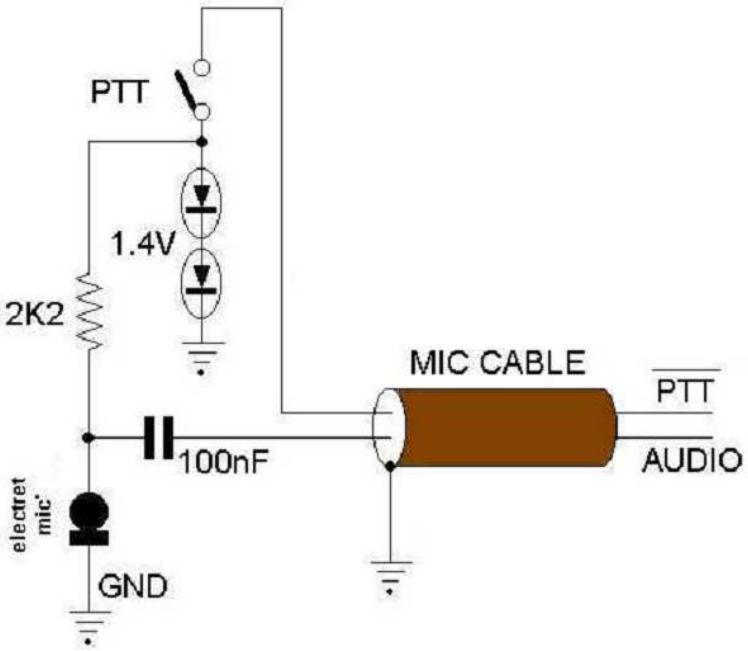
This particular antenna was dimensioned for use at 30 Mhz. You will note that the left and right hand halves are merely quarter wave sections determined by the formula given earlier. The input impedance (affected by many factors) is nominally 50 ohms.

As with all antennas, the height above ground and proximity to other objects such as buildings, trees, guttering etc. play an important part. However, reality says we must live with what we can achieve in the real world notwithstanding what theory may say.

People erect half wave dipoles in attics constructed of fine gauge wire - far from ideal BUT they get reasonable results by living with less than the "ideal". A lesson in life we should always remember in more ways than one.

Using an ELECTRET microphone without a DC supply

Well not really, but with this "trick" you can replace an existing microphone insert in a 'fist' microphone housing etc, without the need to provide a separate DC supply to power the electret element.
Referring to the diagram shown : it can be seen that the PTT (push-to-talk) line is now grounded through two series silicon diodes (much like a Zener diode) which will then provide a source of DC potential to energise the electret element. In most cases the PTT line although now not pulled down to ground but 'clamped' to 1.4 volts will still operate the radio its connected to. Its certainly worth a try.



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

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

Monthly meeting venue

Witwatersrand Rifles HQ
Cnr Barlow and Cavaleros Str
Industries West
Germiston

First Saturday of the month at 14:30

Committee

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