

An easy-to-make antenna for Eastern FM 98.1 Mhz

To improve reception of your Eastern Suburbs Community radio station, **Eastern FM**, here is an easy to make antenna that is tuned exactly to 98.1 MHz. Two versions are included, a simple dipole made from feeder ribbon, plus, for those DX enthusiasts with metal working capabilities, a more advanced 4 element vertically polarized version is also shown in figure 2. As Eastern FM 98.1MHz is right in the centre of the FM band, reception from all other FM stations will, as well, be improved.

The simple quick antenna as per figure 1 is made from ordinary flat black balanced 300 Ohm feeder ribbon (if clear ribbon is used, it will deteriorate within a couple of years in sunlight, and the plastic will break down). Note that even Bell wire is better than no antenna at all.

Cut a 1.27 metre length of ribbon, bare the wires at each end and twist them together. Trim them back to make the length 1254 mm. Fold in half (to find centre) and cut one wire (refer to Figure 1). Cut another length of ribbon long enough to reach the radio and connect to the antenna as shown.

At the radio, connect to the 300 Ohm antenna terminals.

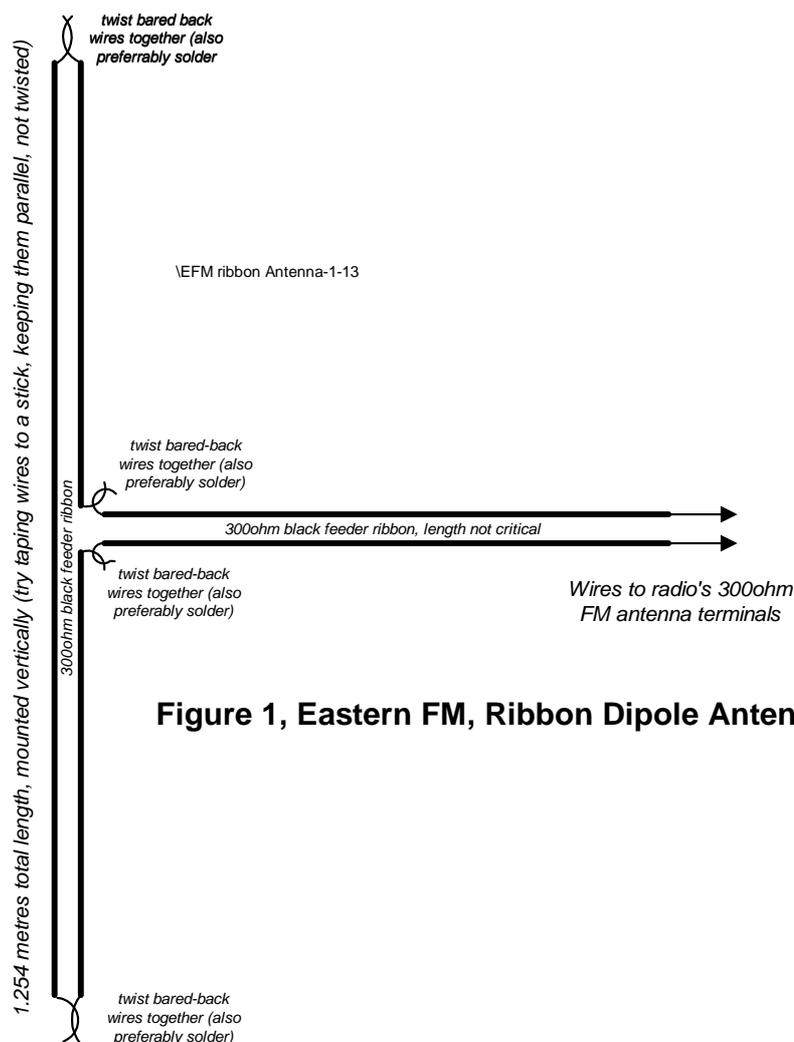


Figure 1, Eastern FM, Ribbon Dipole Antenna

Figure 1: Basic dipole made from a 1.27 metre length of 300 Ohm black TV feeder ribbon.

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For those receivers with a 75 Ohm co-axial connector, a 300 Ohm to 75 Ohm balun transformer will need to be used.

For those portable receivers with a telescopic whip antenna, collapse the antenna, twist one of the 300ohm pair around the top of the chromed whip, connect the other wire to an earth terminal on the radio.

Attach the antenna flat to an inside or outside wall or a post vertically with drawing pins or tape. The lead to the radio should run at right angles (horizontal) for about 60 cm before bringing it down the wall.

If you prefer to run co-axial cable from the antenna, simply install a 300 Ohm to 75 Ohm balun transformer (waterproof, if out in weather) at the centre and use 75 Ohm N co-axial down to the radio.

Because this version (figure 1) antenna is vertical and is omni-directional there is no need to orient it toward the station.

For longevity the joins and ends should be soldered and covered with tape if used outside. This antenna will improve reception of all FM stations. Mount it as high as possible.

If the antenna is to be used outside, black ribbon will last longer, due to its inbuilt UV protection.

For those DX enthusiasts, with metal working capabilities, a more advanced 4 element vertically polarized version is included, refer to Figure 2. Of course, the 'folded dipole' shown in Figure 1 could be made from a cut to length of scrap copper waterpipe, bent and joined at each end, and terminated in the middle with the feeder ribbon cable.

Once built, it should be mounted securely away from trees and sources of interference. The mounting should be done by a suitably experienced and qualified antenna engineer, using appropriate safety equipment and practices.

It should have the shortest element directed to Velma Grove, Croydon North, 3136
Melway ref 50 D/E 5/6, near to the eastern end of Valda Ave (where it meets Velma Grove)

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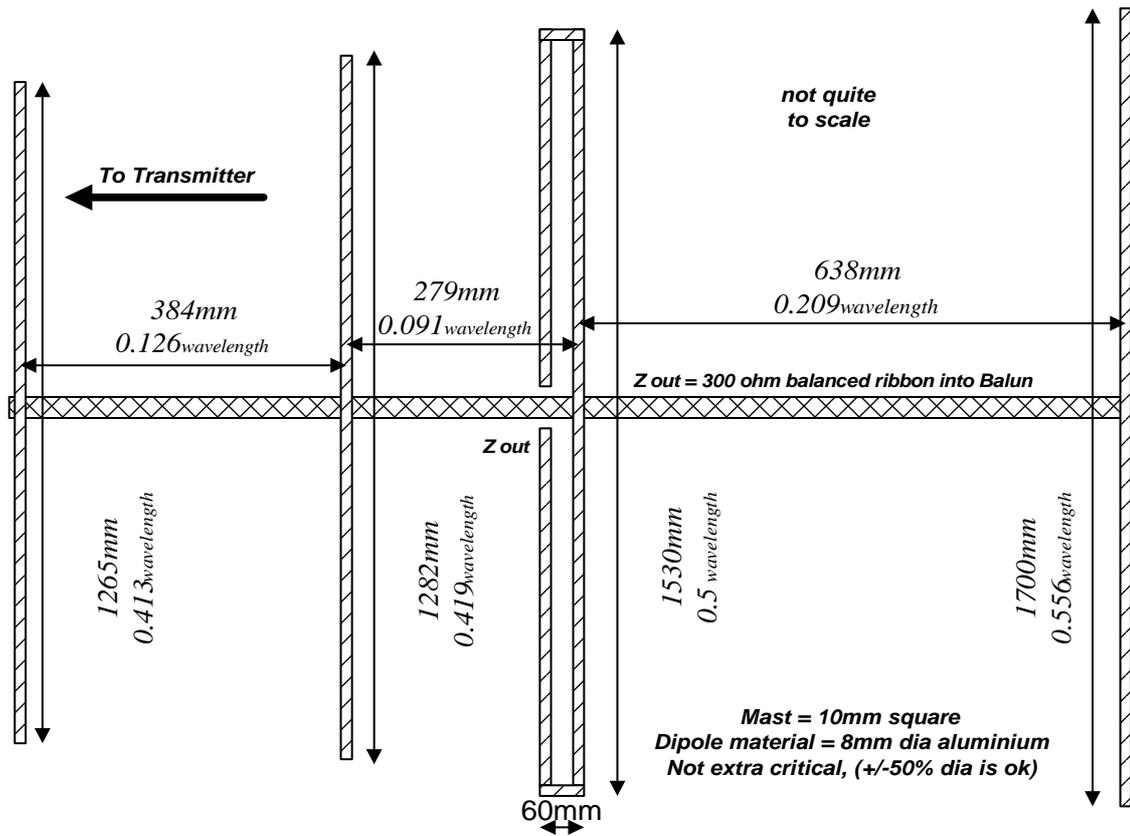


Figure 2:

4 element Yagi, 88-108MHz, dimensions cut for Eastern FM, 98.1MHz

Note, the antenna is to be mounted vertically polarized, a side view looks like this computer screen

This is a diagram of an advanced antenna for fringe reception in difficult areas. It should be mounted as high as possible, and fed into a Balun transformer (300ohm to the antenna terminals), then via 75ohm co-ax cable to the receiver FM Antenna input.