EMERGENCY MEASURES RADIO GROUP	**EMERGENCY MEASURES RADIO GROUP**
AMATEUR RADIO RAC EMERGENCY SERVICE	**OTTAWA ARES**

Two Names - One Group - One Purpose

TWIN LEAD J-POLE ANTENNA
EMRG-201

Version: 1.1

EMRG PUBLIC

This document is classified as PUBLIC, meaning the document can be copied and shared by the documents recipient. Public documents do not contain any personal information or other information such as site details that should not be circulated outside of EMRG or its partners.

Public Documents will be posted on the EMRG WEB site without modification.

Written by: Peter Gamble for the EMRG Management Team

TABLE OF CONTENTS

1.0 REVISION SUMMARY

Date of Change	Revision Number	Summary of Changes (Section #, type of change)
2004-05-09	1.0	Initial document for antenna build party 2004-05
2004-05-23	1.1	Re-number document as EMRG-201 and add classification to header for each page.

2.0 PURPOSE OF THIS DOCUMENT

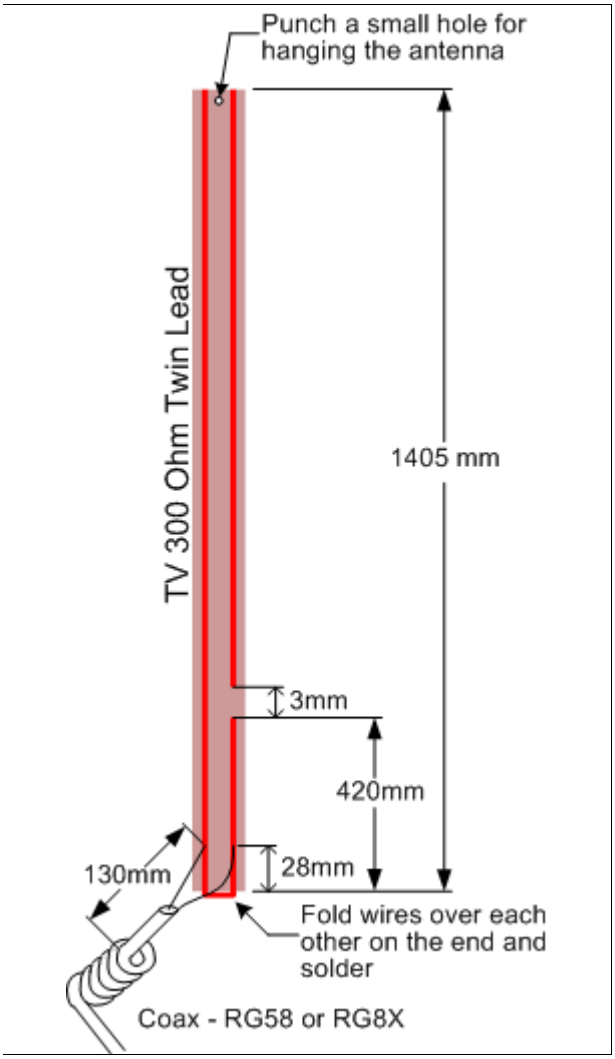
This document contains the detailed information how to build a 2 metre VHF Twin Lead J-Pole antenna.

3.0 BUILDING THE J-POLE

3.1 THE ANTENNA

The J-Pole antenna is a common Amateur antenna due to its simple design, easy to use parts and great performance.

The twin lead J-pole, also known as a roll up J-pole is a popular antenna for hand held radios. The antenna is light, rolls up for travel and can be hung from a tree, a window or whatever else is available.



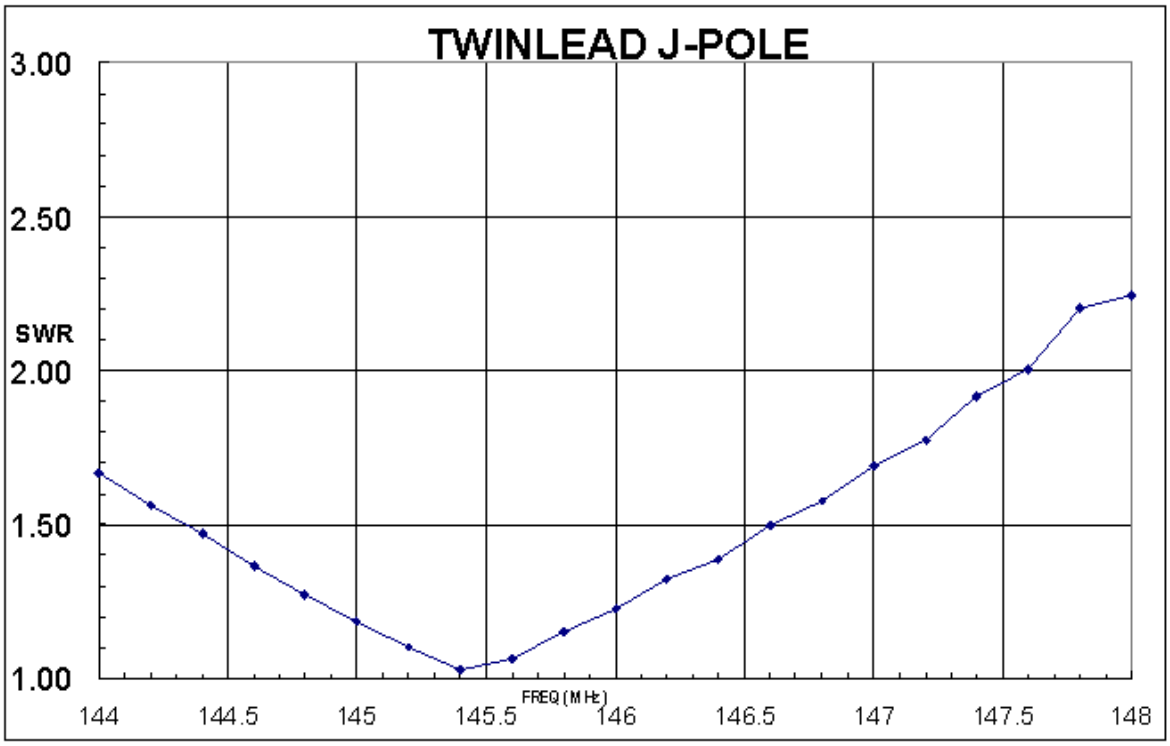
3.2 MATERIALS LIST

1. 153 cm (60") Television 300 ohm “Twin Lead”
   - Radio Shack: 15-1153 or 15-1253]
2. 3 m (10') RG58 or RG8X Coax Cable. The coax can be longer to suit personal preference and use
3. PL259 or BNC Coax Connector. The PL259 will require an insert reducer to match the cable to the connector.
   - For RG8X, use the reducer for RG59. It is the correct size.

3.3 NOTES

1) Cut the wire longer than required and trim to length for low VSWR at the desired operating frequency.
2) RG58 or RG8X coax, with 5 or more turns wound to make a coil in the coax approximately 130mm from where the coax attaches to the antenna. Wind the coil with an outside diameter of approximately 50mm. Use tape or tywraps to keep the coil together. The remainder of the coax, which connects to the radio, can be any length.
3) Use electrical tape, heat shrink tubing or a silicone sealer, to insulate and seal the connections.
4) Make sure the coil of coax is supported. One option is to use a stick, which goes through the coil and has a string on top to go through the hole in the end of the antenna.

3.4 FREQUENCY – SWR PLOT



Plot of SWR For Different Frequencies For Test Antenna