

### THE "V" TYPE ANTENNA.

#### Equipment.

- 1 "V" type antenna—type A-N-8, including wire, attached insulators (IN-10), and lead-in.
- 6 mast sections, type MS-14.
- 3 guys, rope, double, type GY-4.
- 1 counterpoise wire, insulated, double, type CP-4.
- 2 ground mats, copper screening, type MT-3.
- 3 insulators for mast tops, type IN-7.
- 6 stakes, ground, type GP-3.
- 1 hammer, type HM-1.

#### GENERAL CONSTRUCTION OF THE ANTENNA.

#### Information.

The "V" antenna is used with SCR-79-A, SCR-99, SCR-109-A, and SCR-67-A sets. Each leg of the V is 150 feet long and requires a double counterpoise wire of the same length. Insulated stranded wire is used rather than single wire in this antenna because of its greater flexibility and its less liability to become tangled. The type IN-10 insulators used between the ends of the antenna and the masts are micarta strip 7 by  $\frac{1}{2}$  by  $\frac{1}{4}$  inch, with galvanized steel clevises and harness hooks at each end.

The stranded "V" antenna may be erected rapidly and efficiently by two men. Generally a two-wire counterpoise is used, but sometimes three wires may be used. In this case, one wire is laid on the ground, midway between the antenna wires, while the other two are laid outside the antenna wires, making angles of about  $30^\circ$  with the antenna legs. When the ground mats are used they should be spread out on the ground in the space bounded by the legs of the antenna.

The two-wire "V" antenna is used with the above sets instead of the one-wire inverted "L" antenna, since due to the two wires in parallel, the antenna has greater capacity and less resistance than would one wire having a length equal to the two wires together. Therefore it radiates stronger signals in the direction of the point of the "V" than would be the case if an inverted "L" antenna were used.

#### Questions.

- (1) *Why is stranded wire used in this antenna?*
- (2) *What type of insulators are used with the "V" antenna?*
- (3) *Could the antenna be used without insulators on the antenna wires?*

- (4) *Why is this type antenna used rather than the inverted "L"?*
- (5) *Into how many sections is each mast divided? Why not use a single section mast 20 feet long?*
- (6) *Why are counterpoise wire and ground mats both provided?*

**Information.**

The various parts of the equipment should first be examined and their functions understood. After this the equipment is taken into the field and the antenna is erected. A convenient method for the erection of the "V" antenna is to treat it as two inverted "L's." First the mast at the lead-in end is raised, and then each leg in turn, as was done in raising the end of the inverted "L." After the two end masts are erected, the mast at the lead-in end is straightened up, if necessary. While the operator connects up the set, the second man should lay out the counterpoise wires or the ground mats, whichever it has been decided to use.

After the antenna has been erected, the work will be inspected by the instructor. When this inspection has been completed, the equipment should be taken down and prepared for transportation.

EXPERIMENT No. 1.

TO ERECT A "V" ANTENNA.

**Directions.**

1. Go to the equipment assigned by the instructor and inspect it carefully, checking up the parts. Then take it into the field, unpack the equipment required, and erect the antenna. One man will act as No. 1 of the group and the other as No. 2.
2. After the work has been inspected, remove the antenna and prepare it for transportation.
3. Unpack the equipment and again erect the antenna, reversing the positions of the No. 1 and No. 2 men in the operation.
4. Remove the antenna and pack the equipment for transportation.