

QUAD ARRAY LOOP YAGI ANTENNA ASSEMBLY AND INSTALLATION INSTRUCTIONS



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Quad – Array Loop Yagi Antenna

Packing Contents

Array frame pack	
	4 x frame parts labelled part 1-4
	8 x clamp halves
	8 x M6x100 bolts
	32 x M6x16 bolts
	32 x M6 nuts
	48 x M6 spring washers
	2 x 450-470MHz Splitters
	20 x cable ties
	1 x Instruction document
Antennas	
(Packaged separately)	4 x 450 - 470MHz Antenna
	(ANT 450-470-010-YDXX)

Tools required

1 x 10mm socket
1 x 10mm spanner
1 x Cutters (for cable ties)

Assembly Instructions

1. Arrange the 4 frame parts as shown in Fig.'s 1 & 2 below.

Note: There are labels on each piece showing which antenna array they are for, which part number it is and what joins go where. Arrange them so the join numbers are next to each other.

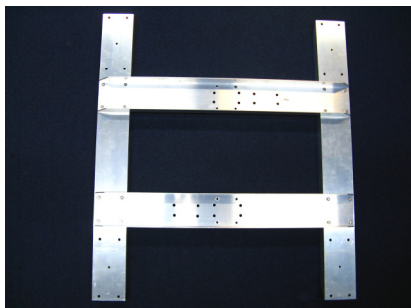


Fig.1 - Frame assembly



Fig.2 - Part labels

2. Use 16x spring washers, 16x M6x16 bolts and 16x M6 nuts to assemble the frame together.

3. Unpack the 4 Antennas. Each one is labelled with Ant: 1-4. Each antenna must be put in a specific place on the array, ensure that the Ant: 1- 4 labels on the Antenna, match the Ant: 1-4 labels on the frame (see Fig.3). Use 4 x spring washers and 4 x M6x16 bolts to secure each antenna to the frame (nuts not required, antennas have pressed insert nuts).



Fig.3 - Antenna labels

Note: The "this side down" label on each antenna must face down when the array is installed. This ensures the drain holes on the antennas are correctly orientated.

4. Bolt the 4 clamp halves to the rear of the frame using 8 x M6x100 bolts, 8 x spring washers and 8 x M6 nuts (see Fig. 4 & 5). Place the spring washer between the bolt head and the frame (see Fig.6).

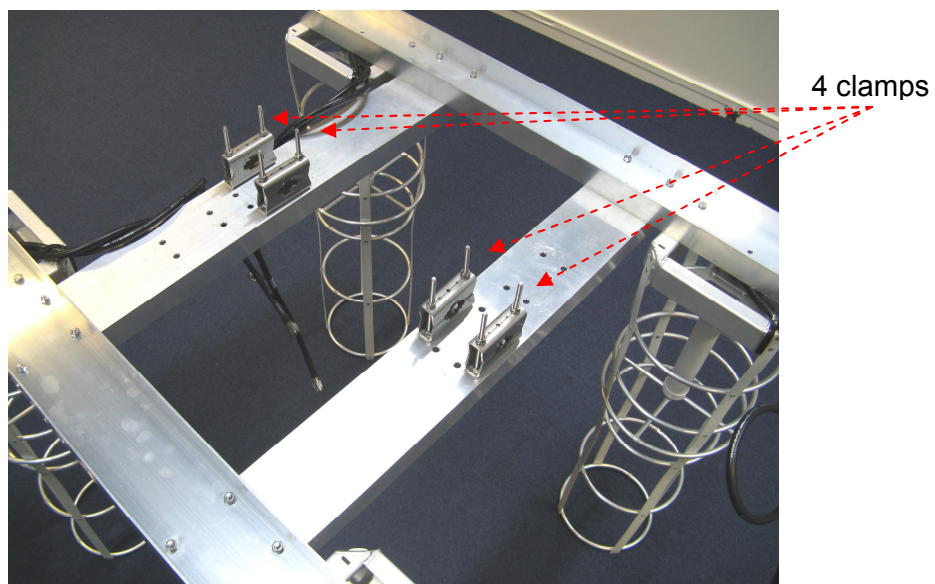


Fig.4 - Pole Clamp positions

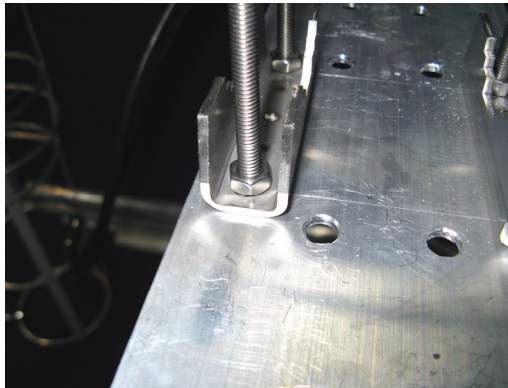


Fig.5 – Clamp bolt & nut

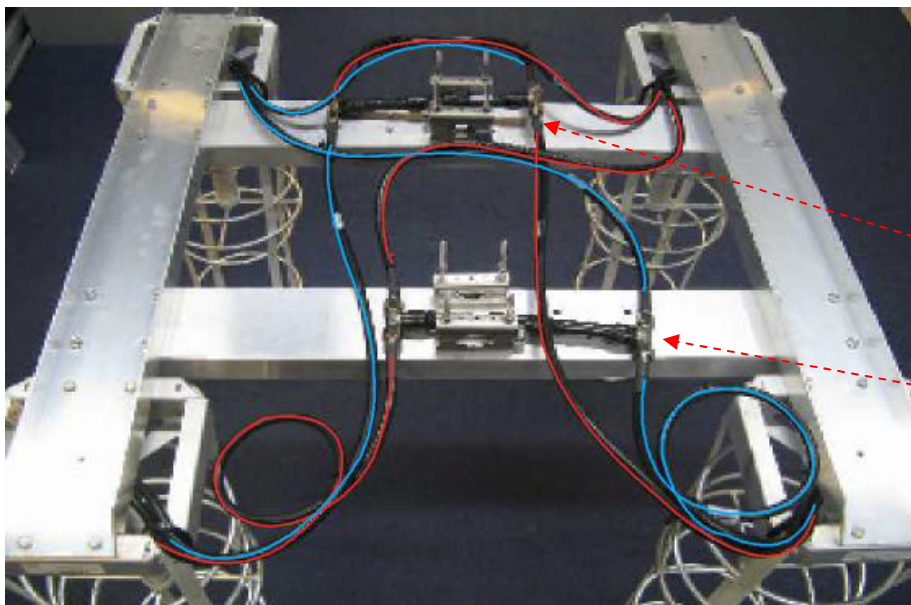


Fig.6 - Bolt head with spring washer

Note: The nut will be difficult to tighten due to its location in the clamp - its only required to hold the clamp in place until the rear clamp is fitted.

5. Run the Antenna cables, as shown in Fig.7, to each splitter. Create an approx. 100mm diameter loop in each of the 'vertical' cables of the bottom 2 antennas (see fig.7) to use up the slack.

Note: Do not cut or alter the length of the cables, they are phase matched. All cables labelled 'Vertical' must go to the lower splitter, all cables labelled 'Horizontal' must go to the upper splitter.



Horizontal splitter
Run all 'horizontal' cables here.

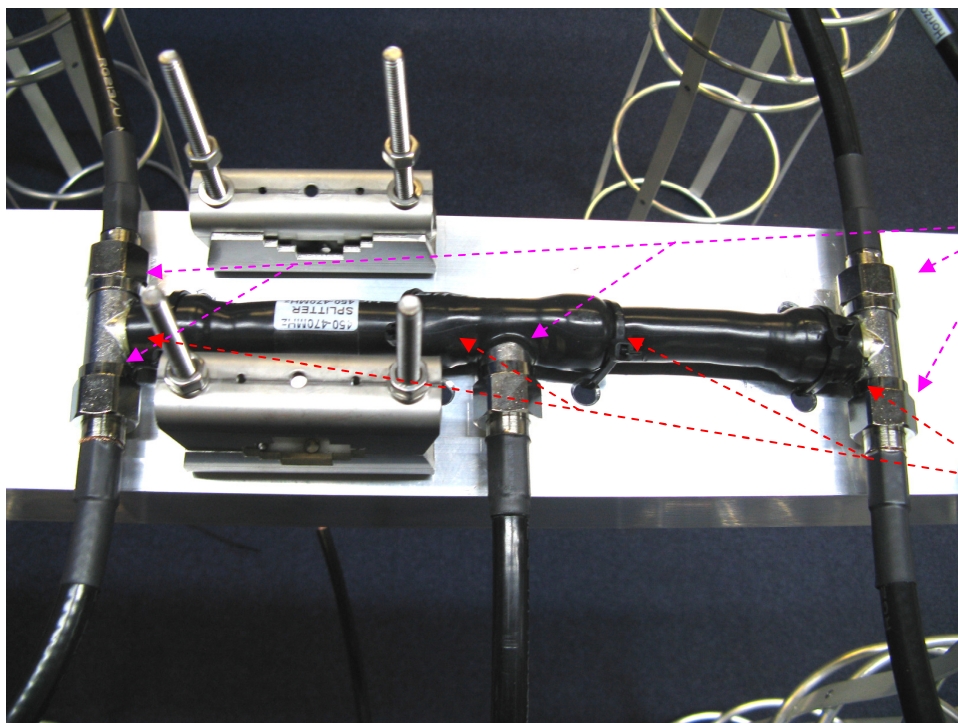
Vertical splitter
Run all 'vertical' cables here.

Fig.7 - Colour coded cable runs

6. Tighten each of the N-type connectors to the splitters.
7. Using an appropriate self-vulcanising rubber tape, or similar means, seal the 4 antenna connections to each splitter. The joints must be water tight and UV resistant (unless antenna is to be installed indoors).

Note: For easy installation, it is recommended that a coax tail be connected to the central connector of each splitter and the connection waterproofed in the same way as the other connections. This will allow the splitter to be mounted to the array frame before the array is installed on the pole

8. Cable tie each splitter into place as shown in Fig.8 using 4 x cable ties.
9. Cable tie cables so they are held neatly in place and cannot chafe against metalwork.



Waterproof these 5 joins with self-vulcanising rubber tape or similar means.

Cable tie splitters in these 4 positions.

Fig.8 - Splitter mounting and waterproofing

The antenna array is now ready to be fitted to its pole.

Installation Instructions

Note: Recommended pole size is 38-52mm OD, to ensure stability.

1. Lift the antenna array into place on the pole at the desired height. Place 4x clamp halves over the long bolts so pole is between 2 clamp halves. Place a spring washer and nut on each bolt. Tighten enough so the antenna does not fall down, but not so tight that it can't be rotated on the pole.
2. Rotate the array to the desired direction and tighten the nuts fully.
3. Attach coax tails to their mating cables and tape up using an appropriate self-vulcanising rubber tape or similar means. All joints must be water tight and UV resistant (Unless antenna is to be installed indoors).
4. Cable tie the cable run to the antenna array so cable is held firmly and neatly in place and there is no strain on connectors.



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