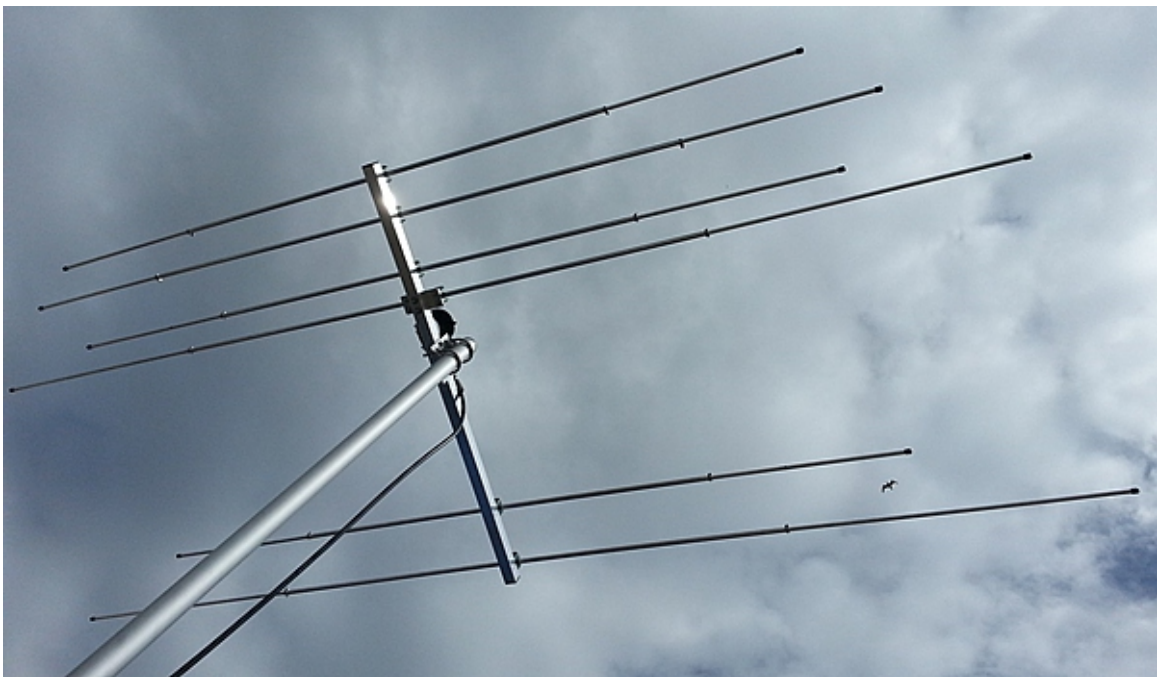


6el 50/70MHz Dual Band Yagi

High Performance hybrid log

Model: 6-duo-5070

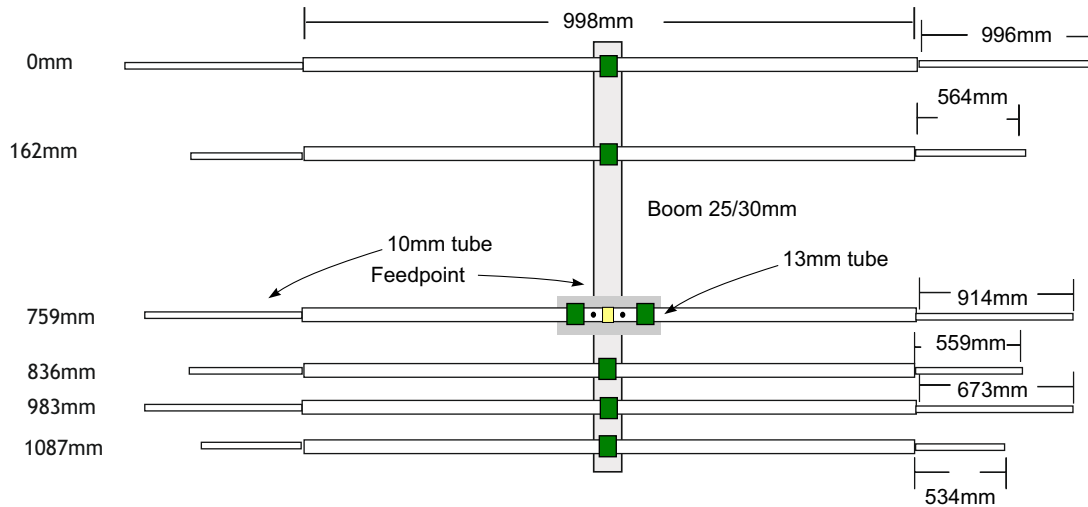
Z08564-0030



InnovAntennas

50/70MHz 6el 50 Ohm Dual Band Yagi

(NOT TO SCALE)



Boom Length : 1.1m
Feed system: 1 feedline with 1:1 balun
Wind Survival: 115 mph

Direct 50 ohm feed

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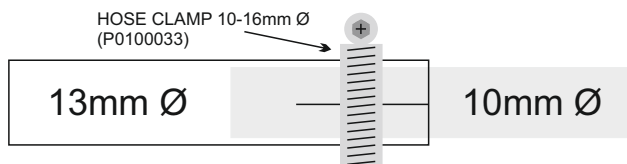
Testing the antenna

Please read the rest of the manual before testing and ensure a 1:1 balun or common mode choke is installed at the feed point. For effective 'on ground' testing your antenna should be at least one 1/4 wave or one boom length (whichever is the greatest length) above ground. It should also be pointed to a clear horizon with no building, trees or other objects in its view.

If a clear view is not possible, remove the top 50mm U-bolt from the boom to mast plate and allow the antenna to angle upwards in order the reflector is lower to ground than the director(s) and the antenna is pointing to clear sky. This will ensure that any final tuning you do at ground level is least likely to alter once the antenna is installed into its final position.

Help and assistance @ support@innovantennas.com

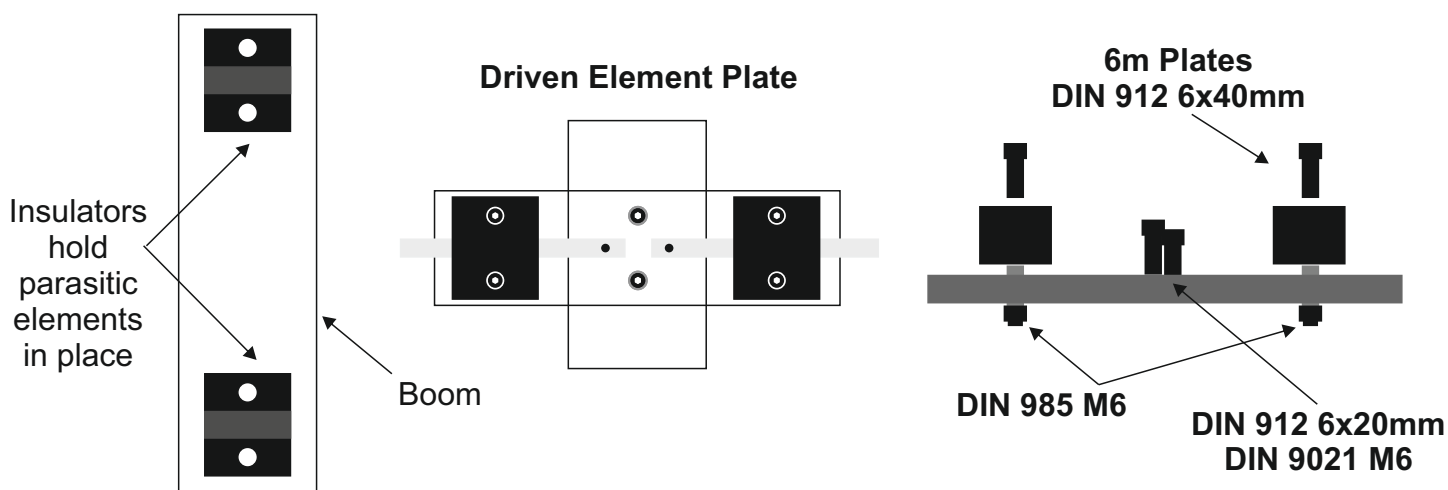
The driven element loop ends are fixed in place with a hose clamp 8-16mm (P0100022) at each corner of the 13 to 10mm diameter tubes. 7-11mm (P0100031) hose clamps hold the loop end in place and allow for adjustment (SWR).



Measurements on the drawing on page 2 are exposed lengths for each tube. The element sections total length will be longer than this to allow for overlap. For antennas that have tapered elements, it is advisable to insert the centre section into the white insulator clamp and tighten both to the boom before inserting the tips, measuring and finalising each elements respective length.

The driven element section of the loop (closest to the reflector) has a small plate with two white insulators, one either side of the feedpoint. 2 M6 bolts DIN 912 6 x 20mm hold this plate in place. More details of the feed point arrangement are shown on page 6.

It is important NOT to over-tighten the insulator blocks. They need to be tight enough that neither they nor the element moves. They should not be tightened down further, this may reduce the life length of the clamp.



Grease or oil all stainless steel parts before assembly to ensure reliable fitment and long-term survivability of the antenna and its components. InnovAntennas ConductAseal and RubbAseal are recommended when installing and are available via the InnovAntennas website.

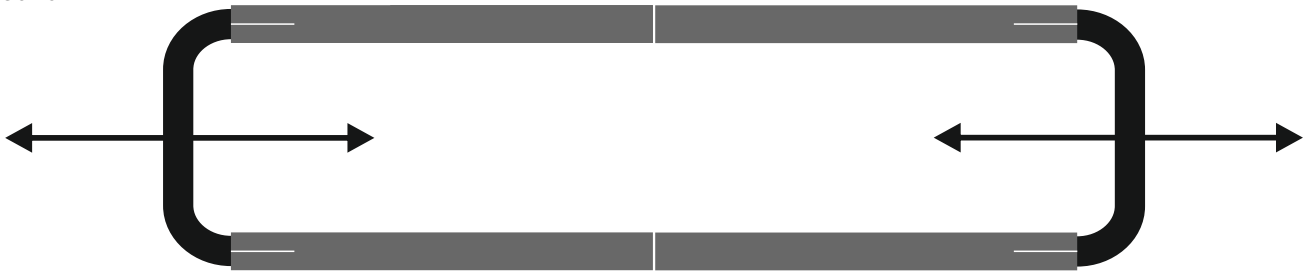
www.innovAntennas.com

Adjusting SWR

Once you have built your antenna and it is in position on your mast or test mast, you may find you need to make some small adjustments to the loop in order to get the best SWR. Move the loop ends in and out a few mm at a time until the best result is seen. At this point the loop hose clamps can be fully tightened.

Important notes on tuning

If the antenna is too close to ground when tuning, you may find the SWR alters once installed in its final position. In order to elevate this, you should ensure that in the test position the Yagi is at least one $\frac{1}{4}$ wavelength or one boom length (whichever is the greater distance) above ground. Additionally, the antenna should be pointed to a clear horizon with no trees or buildings close by. If this is not something you can achieve, then remove one of the U-bolts from the boom to mast plate in order the antenna can point slightly upward to clear sky. An angle of at least 20 degrees will give the same readings as would be seen if the antenna was installed several wavelengths above ground.

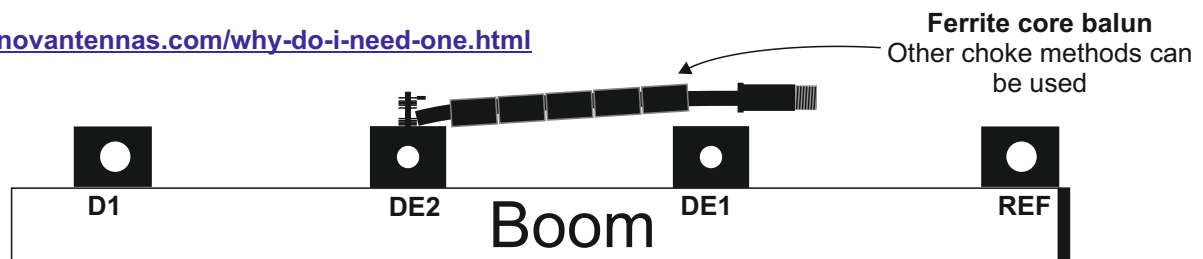


Balun - needed or not?

The LFA Yagi is a balanced antenna. Coax cable is an unbalanced feed line. If a balanced antenna is fed with unbalanced feeder, the coax can radiate as well as the antenna and this can have disastrous consequences on the performance of a Yagi that might not otherwise be seen on antennas such as verticals and dipoles. Therefore, it is important to install a BALANCED to UNBALANCED transformer (1:1 balun) or choke at the feedpoint.

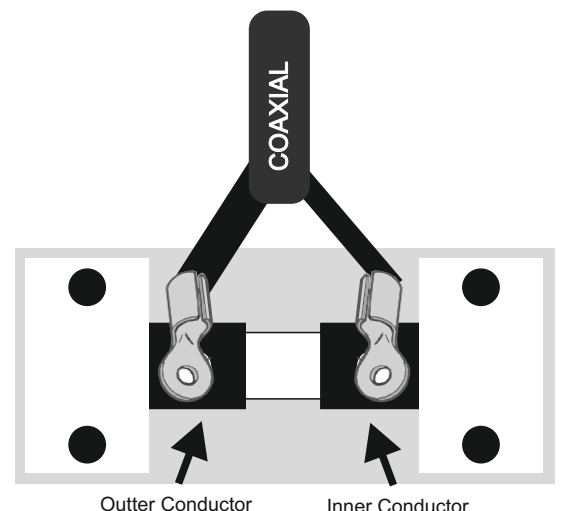
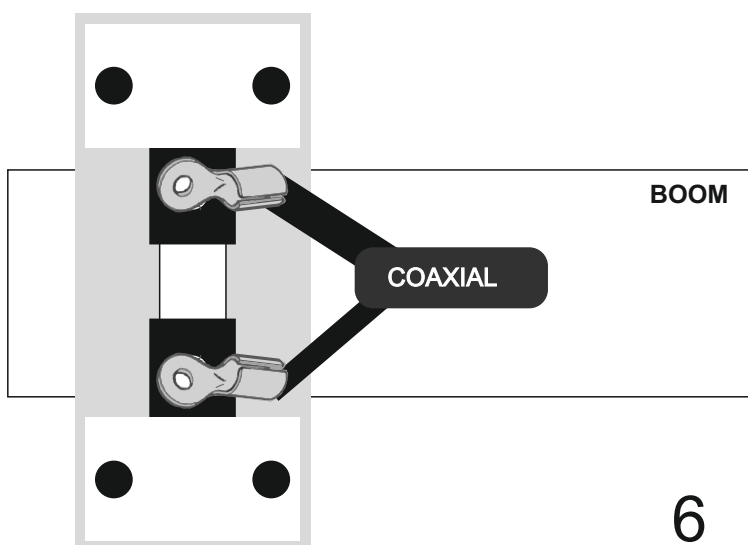
A 1:1 balun is one which connects 50Ohm coax cable to a 50Ohm antenna and prevents these common mode currents radiating back long the coax line. While it is possible to make a very simple choke from a coil of coax at the feed point of the antenna, any such arrangement should be confirmed at working with an antenna analyser. Often, good quality coax has a sleeve thickness too wide to provide enough capacitance between the turns of any coax coils to produce the desired choking. More information can be found here on baluns and configuration:

<http://www.innovantennas.com/why-do-i-need-one.html>











Any installed 1:1 balun or common mode choke must be as close to the feed point as possible. Ensure 'tails' (connection between coax cable and feedpoint) are as short as can be.

For any help and support, please Email us at support@innovantennas.com

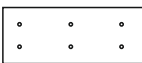








PACKING LIST


BAG #1

PART #	PART IMAGE	DESCRIPTION	SIZES	QUANTITY
EA013018		Boom to Mast plate	100 x 100 x 6mm	1
A-0163		U-BOLT	M8 x 50mm	2
23035.50		SADDLE CLAMP	50mm	2
S127-98		DIN 127 WASHER	M8	4
S934-98		DIN 934 NUT	M8	4
P0500030		Square 30mm Clamp	M6 x 30mm	2
S9021-96		DIN 9021	M6	4
S934-96		DIN 934	M6	4

BAG #2

PART #	PART IMAGE	DESCRIPTION	SIZES	QUANTITY
EA0105A6		DE1 Elements plates	100x50x4mm	1
S912-9620		Allen DIN 912 bolt	20x6mm	2
S9021-96		DIN 9021	M6	2
EAHYP013		13mm Ø Insulator blocks	Element insulators/holders	7
S912-9640		Allen DIN 912 bolt	40x6mm	14
S985-906		DIN 985 NUT	M6	4
P0100022		Hose clamp	8-12mm	12

LARGER BOXED ITEMS

PART #	PART IMAGE	DESCRIPTION	SIZES	QUANTITY
A-A		Boom Section	1275mm x 30mm	1
		Middle part of Elements	998mm x 13mm Ø	5
		Middle part of DE1	998mm x 13mm Ø	1
DE1		DE1 DRIVEN TIP	1014mm x 10mm Ø	2
REF-50		REFLECTOR	1096mm x 10mm Ø	2
D1-50		DIRECTOR 1	773mm x 10mm Ø	2
D1-70		DIRECTOR 2	664mm x 10mm Ø	2
D2-70		DIRECTOR 2	659mm x 10mm Ø	2
D3-70		DIRECTOR 2	634mm x 10mm Ø	2