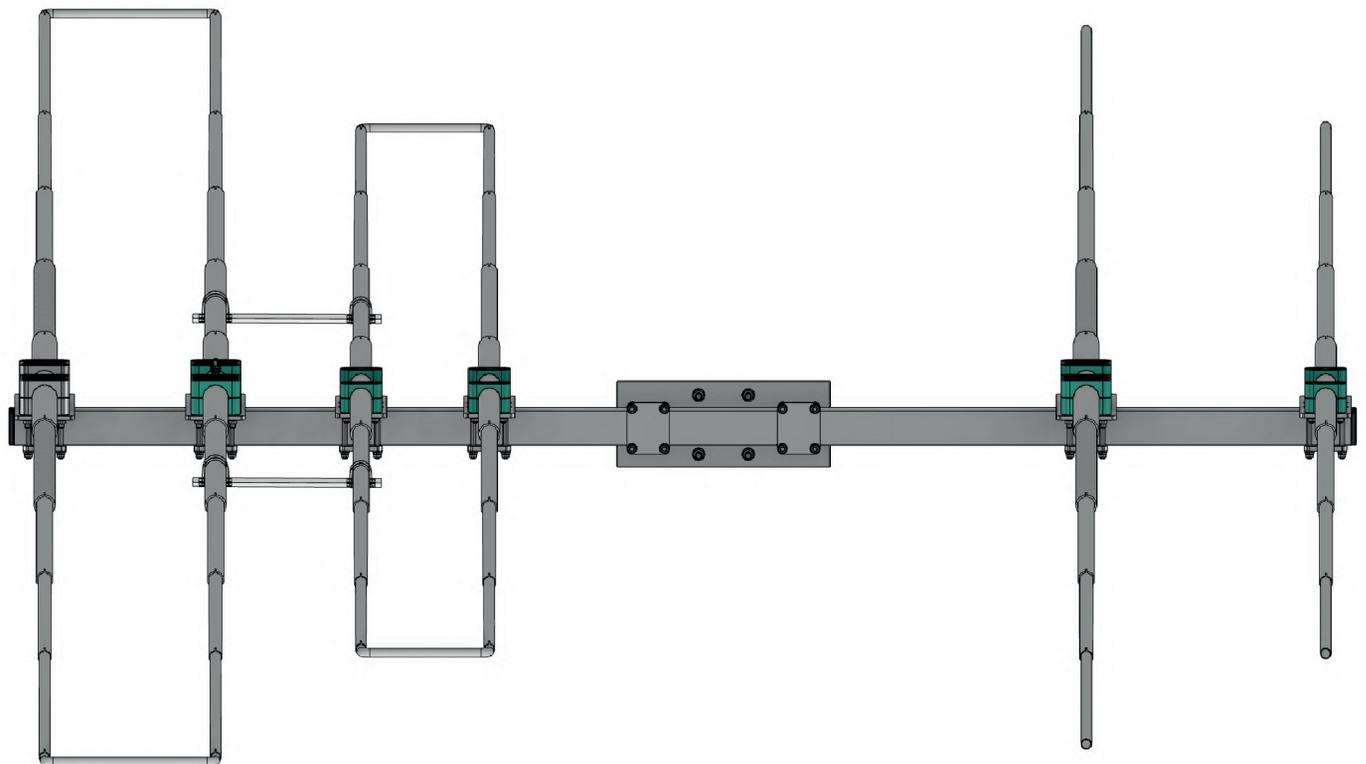
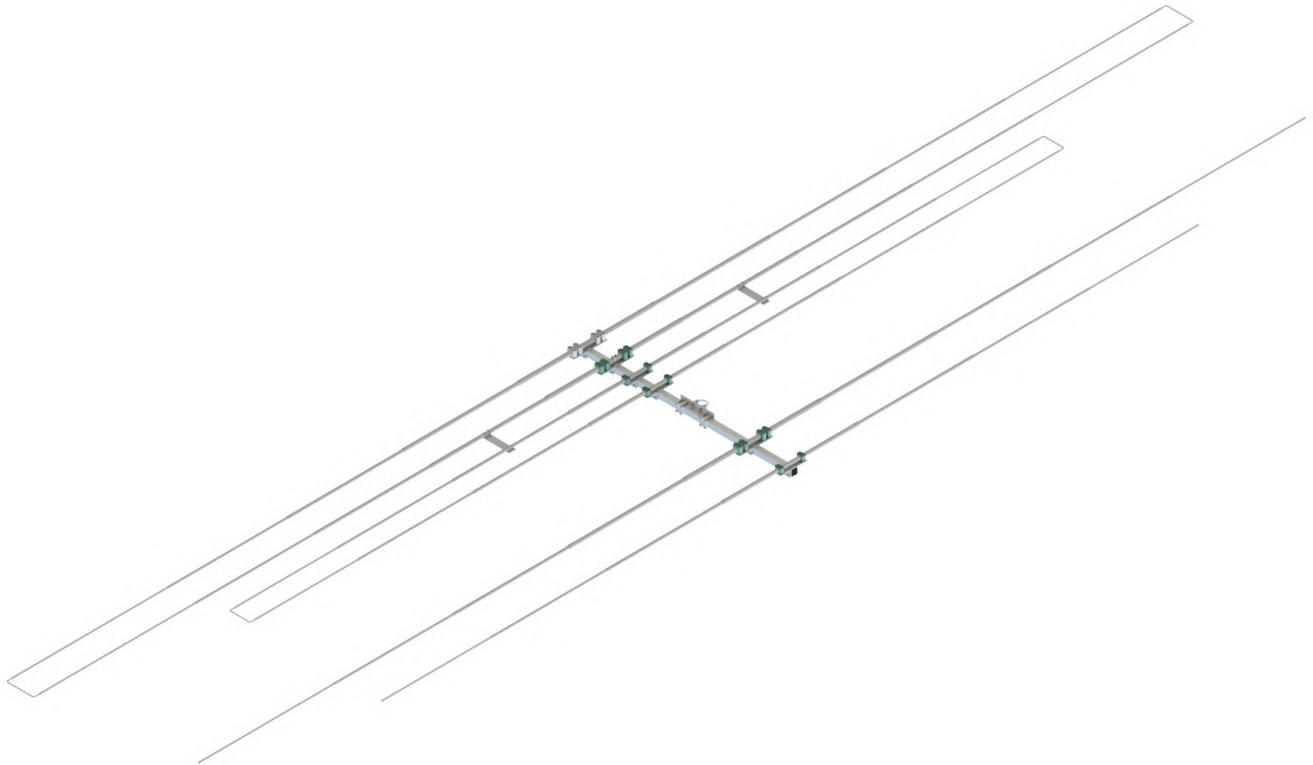


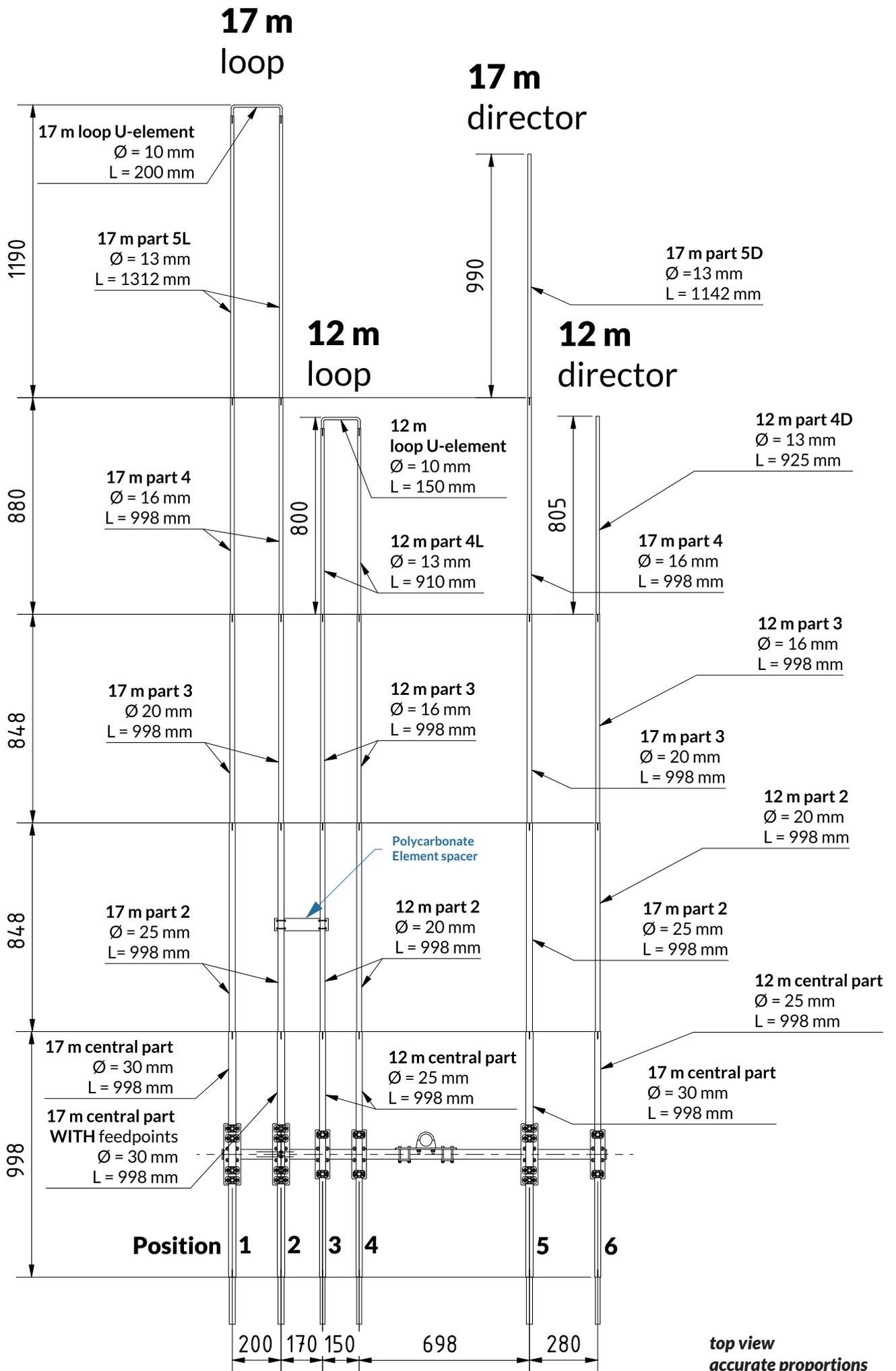
# InnovAntennas

17/12m FD-Duo 50 Ohm Dual bander Yagi  
Article no. 18480.0004



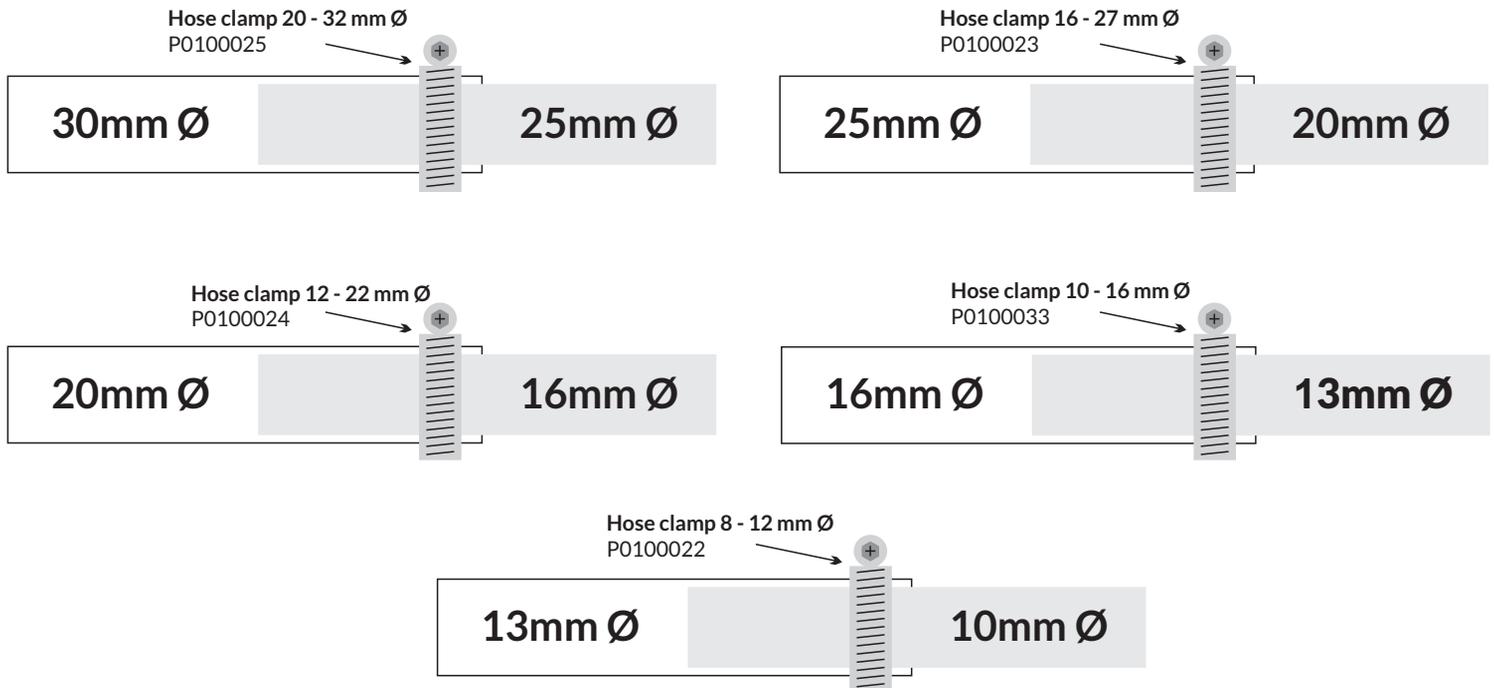
**Weight:** 29,0 kgs  
**Boom length:** 1564 mm  
**Max. power:** 10,0 kW\*

\* This antenna includes 3kW balun



# Element Joining Instructions

All element parts are connected with **hose clamps**. The following diagrams show the connection principle. The corresponding elements and their respective extension lengths can be found in the drawing on page 2.



Mark the center point of the central element with a pencil.  
You can use a folding rule or measuring tape for this purpose. The central elements  
must be positioned centered on the element plates.

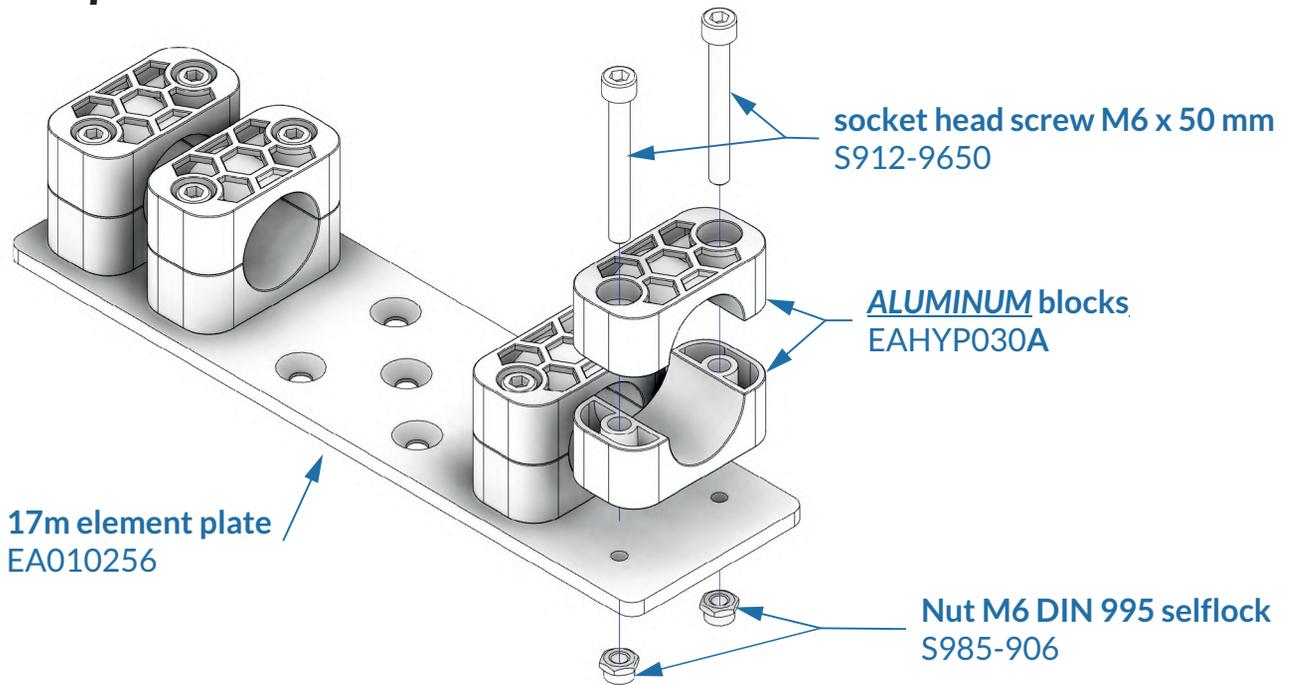
## Final element tip adjustment

On both bands the antenna will cover the majority if not all of the band. However, as with most HF Yagis, proximity to ground, ground type and nearby objects and antennas, may vary the point at which the antenna dips (lowest SWR). Therefore, the tips of each element on each band can be adjusted in order that you can fine-tune your antenna for your working requirements.

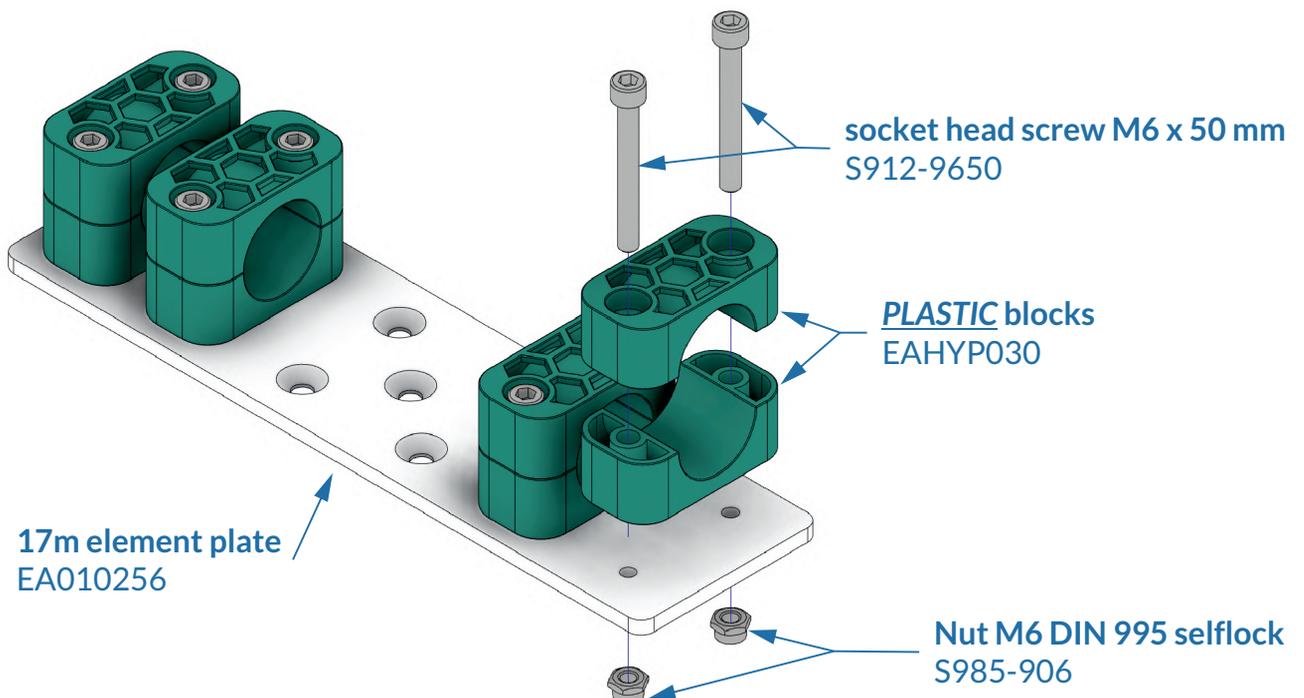
Adjust the driven element of a given band for lowest SWR wherever that may fall, not where you want it to be. If the point of lowest SWR is not in the band section you desire, adjust **BOTH** band elements by the same amount to move the dip to the desired point and then re-adjust the driven element for lowest SWR dip.

# Element mounting plates

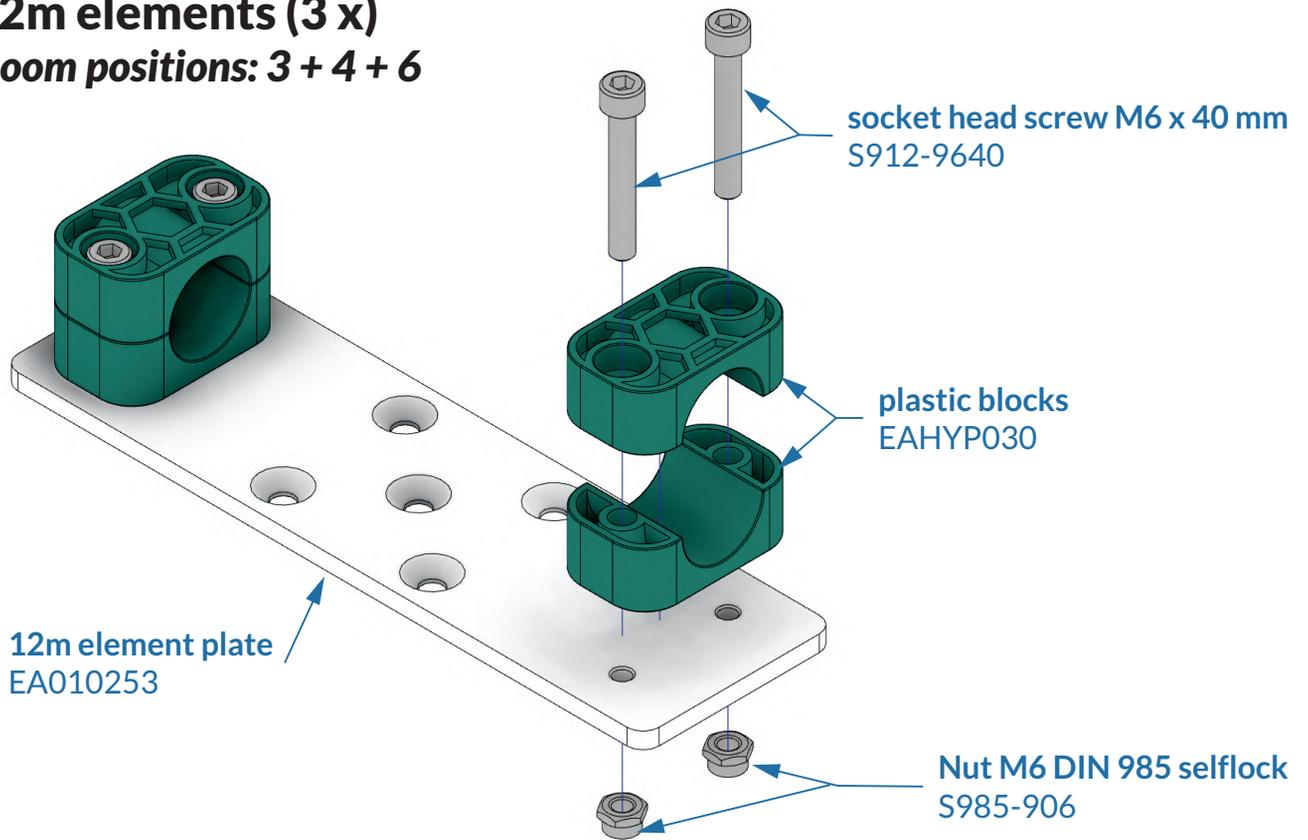
## 17m element plate (1 x) boom position: 1



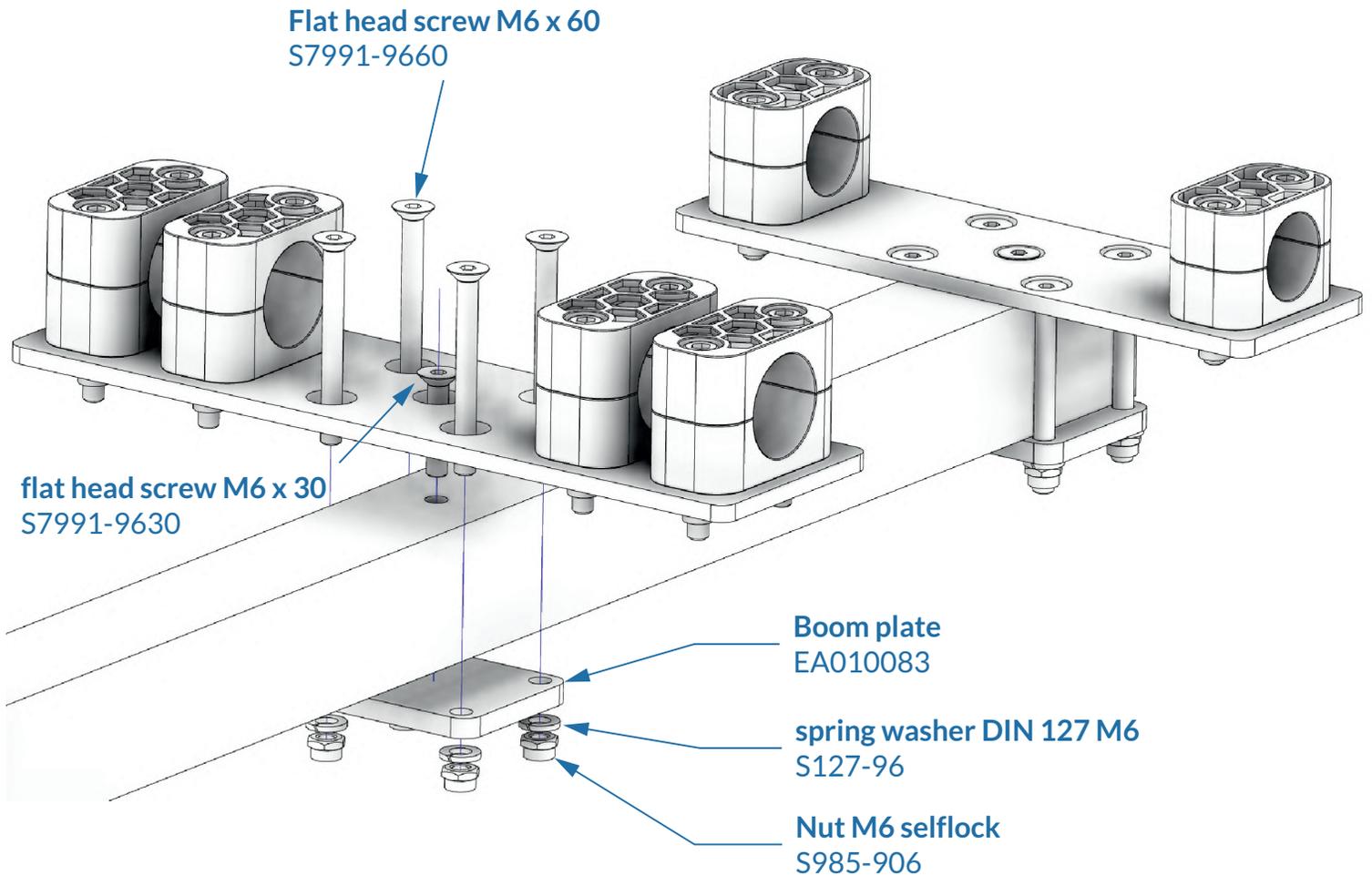
## 17m element plates (2 x) boom position: 2 + 5



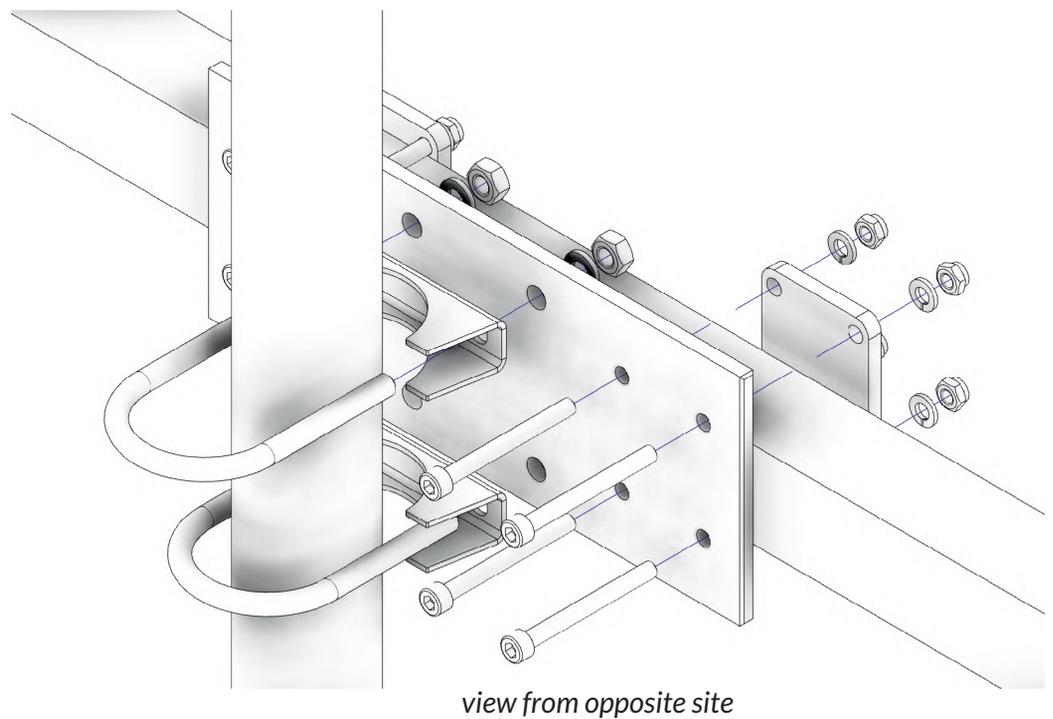
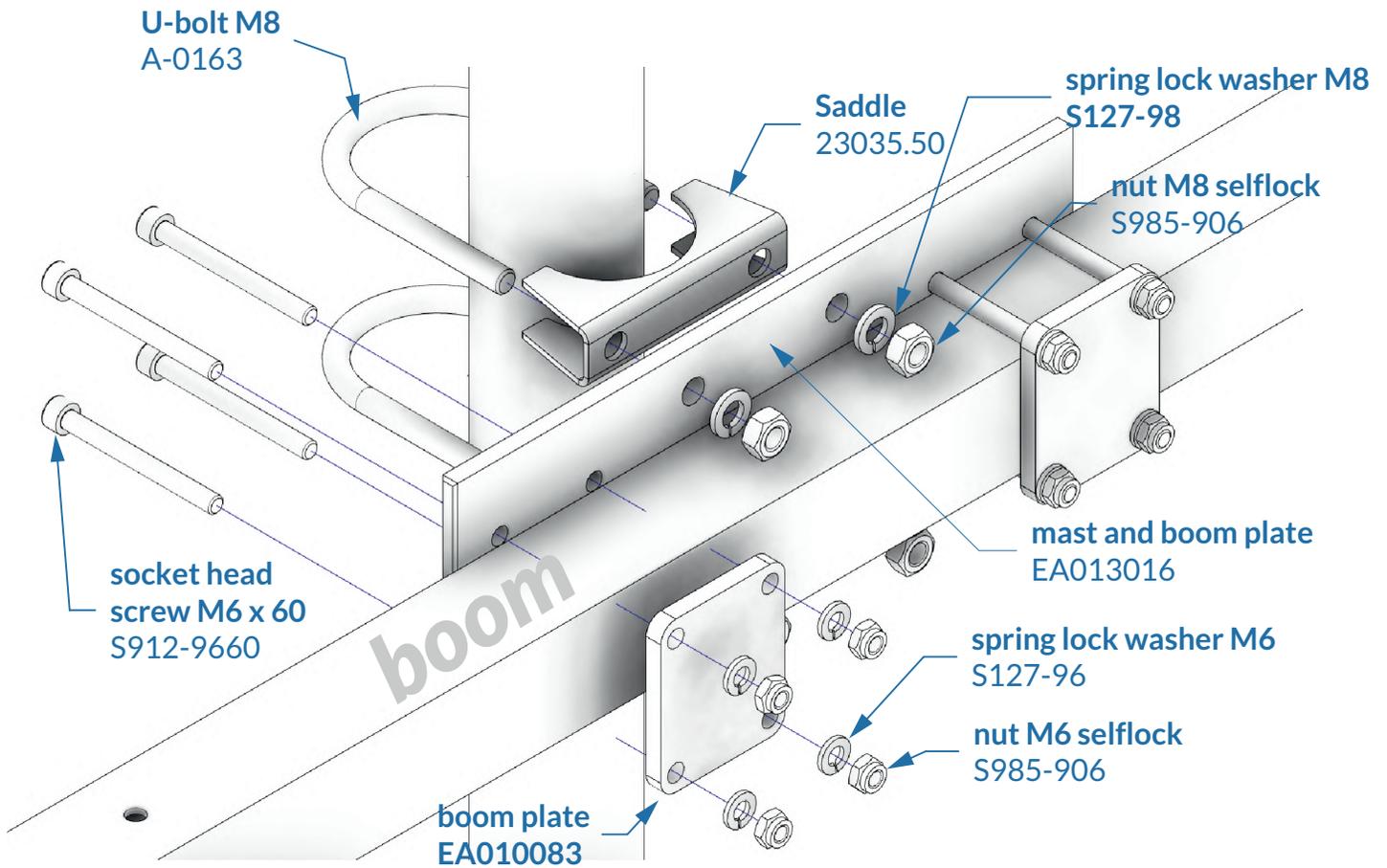
**12m elements (3 x)**  
**boom positions: 3 + 4 + 6**



## Element plate to boom assembly

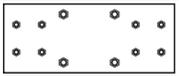


# Boom to Mast Assembly



# PACKING LIST

## BAG #1

PART #	PART IMAGE	DESCRIPTION	DIMENSIONS	QUANTITY
EA013016		Mast and Boom plate	250 x 100 x 6mm	1
EA010083		Boom Plate	50 x 60 x 6mm	2
A-0163		U-BOLT	M8 x 50 mm	2
S127-98		Spring lock washer DIN 127	M8	4
S934-98		Nut DIN 934	M6	4
23035.50		Saddle	50 mm	2
S912-9660		Socket head screw DIN 912	M6 x 60 mm	8
S127-96		Spring lock washer DIN 127	M6	8
S985-906		Nut DIN 985 selflock	M6	8

## BAG #2

PART #	PART IMAGE	DESCRIPTION	SIZES	QUANTITY
P0100025		Hose clamp	20 - 32 mm	6
P0100023		Hose clamp	16 - 27 mm	12
P0100024		Hose clamp	12 - 22 mm	12
P0100033		Hose clamp	10 - 16 mm	12
P0100022		Hose clamp	8 - 12 mm	8

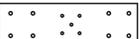
## BAG #3

PART #	PART IMAGE	DESCRIPTION	DIMENSIONS	QUANTITY
S912-9650		Socket head screw DIN 912	M6 x 50 mm	24
S912-9640		Socket head screw DIN 912	M6 x 40 mm	12
S985-906		Nut DIN 985 selflock	M6	36
S7991-9630		Flat head screw DIN 7991	M6 x 30 mm	6
EAHYP030		Plastic blocks	30 mm Ø	8
EAHYP030A		ALU blocks	30 mm Ø	4
EAHYP025		Plastic blocks	25 mm Ø	6

## BAG #4

PART #	PART IMAGE	DESCRIPTION	DIMENSIONS	QUANTITY
EA010083		Boom to Mast Plate	60 x 50 x 6mm	6
S7991-9660		Flat head screw DIN 7991	M6 x 60 mm	24
S127-96		Spring lock washer DIN 127	M6	24
S985-906		Nut DIN 985 selflock	M6	24

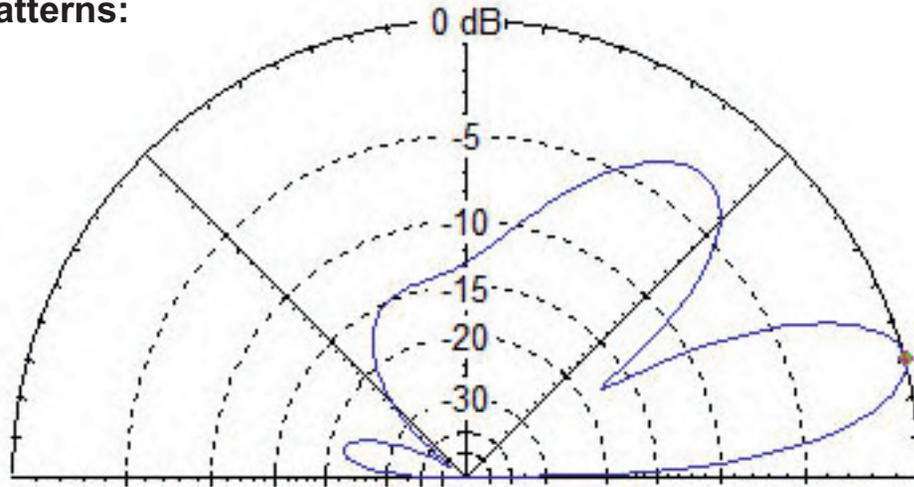
## LOOSE PARTS

PART #	PART IMAGE	DESCRIPTION	DIMENSIONS	QUANTITY
EA010256		17m elements plate	250 x 70 x 5 mm	3
EA010253		12m elements plate	200 x 60 x 5 mm	3
EA010330		POLYCARBONATE Element Spacer (with cable ties)	220 x 50 x 3mm	2

# LOOSE PARTS

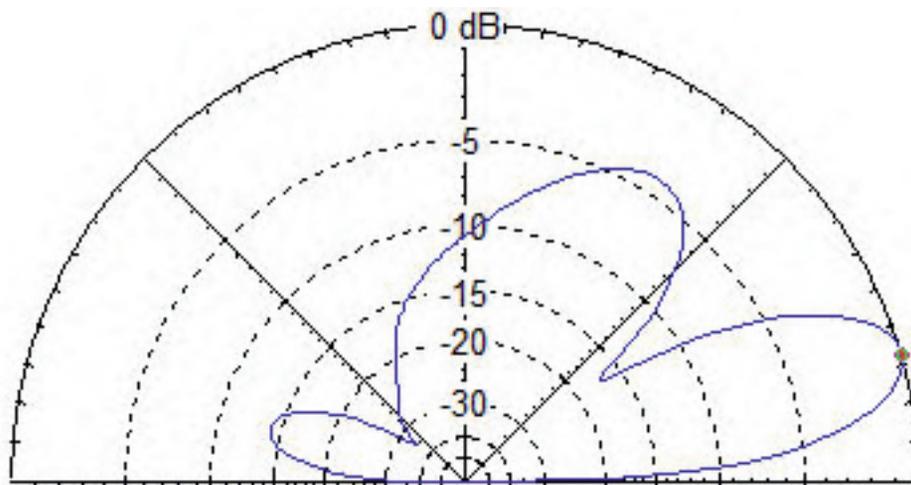
PART #	PART IMAGE	DESCRIPTION	DIMENSIONS	QUANTITY
BOOM		Boom	1564 mm x 40 mm	1
1712DUO@17 30#R		17m central part	998 mm x 30 mm Ø	2
1712DUO@17 30#D		Driven 17m central part (with feedpoint)	998 mm x 30 mm Ø	1
1712DUO@12 25		12m central part	998 mm x 25 mm Ø	3
1712DUO@17 25		17m part 2	998 mm x 25 mm Ø	6
1712DUO@17 20		17m part 3	998 mm x 20 mm Ø	6
1712DUO@12 20		12m part 2	998 mm x 20 mm Ø	6
1712DUO@17 16		17m part 4	998 mm x 16 mm Ø	6
1712DUO@12 16		12m part 3	998 mm x 16 mm Ø	6
1712DUO@17 13#L		17m part 5L (for 17m loop element)	1312 mm x 13 mm Ø	4
1712DUO@17 13#D		17m part 5D	1142 mm x 13 mm Ø	2
1712DUO@12 13#L		12m part 4L (for 12m loop element)	910 mm x 13 mm Ø	4
1712DUO@12 13#D		12m part 4D	925 mm x 13 mm Ø	2
1712DUO@12 17m LOOP		17m loop U-element	200 x 150 x 10 mm Ø	2
1712DUO@12 12m LOOP		12m loop U-element	150 x 150 x 10 mm Ø	2

**Radiation Patterns:  
Elevation**



18.11 MHz

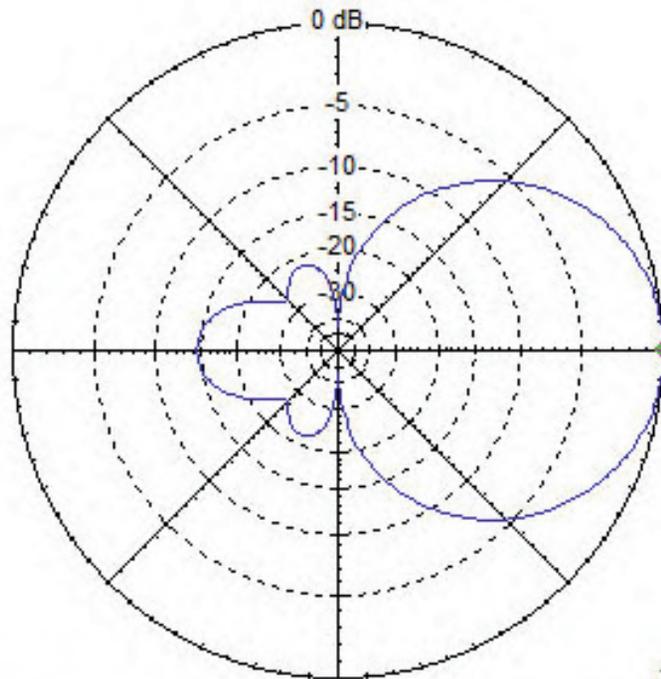
Elevation Plot		Cursor Elev	15.0 deg.
Azimuth Angle	0.0 deg.	Gain	12.04 dBi
Outer Ring	12.04 dBi		0.0 dBmax
Slice Max Gain	12.04 dBi @ Elev Angle = 15.0 deg.		
Beamwidth	16.2 deg.; -3dB @ 7.4, 23.6 deg.		
Sidelobe Gain	9.05 dBi @ Elev Angle = 52.0 deg.		
Front/Sidelobe	2.99 dB		



24.9 MHz

Elevation Plot		Cursor Elev	16.0 deg.
Azimuth Angle	0.0 deg.	Gain	12.23 dBi
Outer Ring	12.23 dBi		0.0 dBmax
Slice Max Gain	12.23 dBi @ Elev Angle = 16.0 deg.		
Beamwidth	17.7 deg.; -3dB @ 8.0, 25.7 deg.		
Sidelobe Gain	8.08 dBi @ Elev Angle = 57.0 deg.		
Front/Sidelobe	4.15 dB		

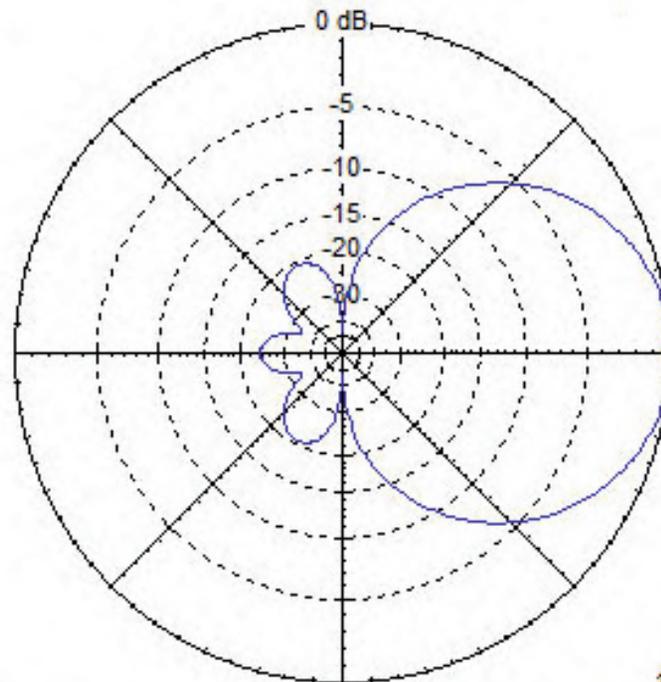
**Radiation Patterns:  
Azimuth**



24.9 MHz

Azimuth Plot		Cursor Az	0.0 deg.
Elevation Angle	0.0 deg.	Gain	7.18 dBi
Outer Ring	7.18 dBi		0.0 dBmax

Slice Max Gain	7.18 dBi @ Az Angle = 0.0 deg.
Front/Back	14.38 dB
Beamwidth	67.2 deg.; -3dB @ 326.4, 33.6 deg.
Sidelobe Gain	-7.2 dBi @ Az Angle = 180.0 deg.
Front/Sidelobe	14.38 dB



18.11 MHz

Azimuth Plot		Cursor Az	0.0 deg.
Elevation Angle	0.0 deg.	Gain	6.89 dBi
Outer Ring	6.89 dBi		0.0 dBmax

Slice Max Gain	6.89 dBi @ Az Angle = 0.0 deg.
Front/Back	23.82 dB
Beamwidth	67.0 deg.; -3dB @ 326.5, 33.5 deg.
Sidelobe Gain	-13.86 dBi @ Az Angle = 118.0 deg.
Front/Sidelobe	20.75 dB