

Quad-Helix Omni and Uplink Antennas



Peak Antennas' quad-helix omni (QHO) and quad-helix uplook (QHU) designs bring the advantages of the characteristic quad-helix antenna radiation pattern to mobile ENG uplink/downlink applications.

The two versions, QHO and QHU feature different, carefully designed helix parameters, to give a choice of performance characteristics as described below.

The QHO antenna provides a circularly polarized omnidirectional radiation pattern with peak gain of 4 dBi at 30 degrees above the horizon, and then decreasing gain, with no nulls, as the elevation angle increases to the overhead 90 degree direction. The shape of the radiation pattern naturally compensates for the change in path loss as a mobile transmitter moves from the overhead direction out toward the horizon. Good coverage is provided in this way from approximately 10 degrees above the horizon to the overhead direction.

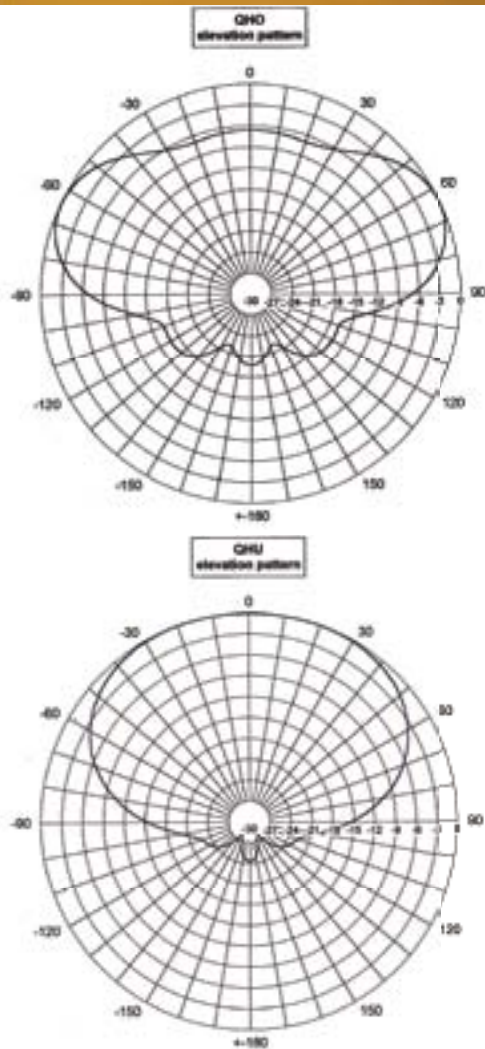
The QHU antenna also provides a circularly polarized radiation pattern, but with a maximum gain of 3 dBi in the overhead direction and a broad 120 degree beam-width.

The standard antennas have the N female RF connector in the base, however in the 2 GHz bands there is an option to have the connector on the side of the antenna (see example overleaf).

See schedule of frequency bands available.

All the antennas feature:

Polarization:	RHCP or LHCP (specify)
Return Loss:	14dB typical (1.5 to 1 VSWR)
Connector:	N female
Mount:	Flange with through holes or helicoil inserts in (solid) base. (Specify)



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Clockwise from top left:

- Installation showing two QHO240 antennas on the underbelly of an aircraft. These feature side entry connectors.
- QHO650-R antennas showing 'regular' and 'through hole' flange bases.
- QHO148 antenna mounted on a P162 cross-tube mount.
- Demonstration model showing QHO240 (and CO675-4.5) antennas mounted on Geneva Aviation / Dart Helicopter Services' articulated P162 antenna cross-tube mount.

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Designation	Frequency	Height	Diameter
QHO148	1.43-1.53 GHz	257mm/10.1"	95mm/3.7"
QHO180	1.70-1.85 GHz	216mm/8.5"	110mm/4.3"
QHO205	1.98-2.11 GHz	190mm/7.5"	95mm/3.7"
QHO210	2.02-2.19 GHz	190mm/7.5"	95mm/3.7"
QHO220	2.11-2.29 GHz	190mm/7.5"	95mm/3.7"
QHO224	2.15-2.32 GHz	190mm/7.5"	95mm/3.7"
QHO230	2.23-2.38 GHz	190mm/7.5"	95mm/3.7"
QHO240	2.30-2.50 GHz	190mm/7.5"	95mm/3.7"
QHO260	2.50-2.70 GHz	190mm/7.5"	95mm/3.7"
QHO330	3.2-3.5 GHz	160mm/6.3"	69mm/3.7"
QHO350	3.40-3.60 GHz	160mm/6.3"	69mm/3.7"
QHO470	4.5-4.9 GHz	120mm/4.7"	54mm/2.1"
QHO485	4.6-5.1 GHz	120mm/4.7"	54mm/2.1"
QHO495	4.70-5.20 GHz	120mm/4.7"	54mm/2.1"
QHO505	4.8-5.3 GHz	120mm/4.7"	54mm/2.1"
QHO580	5.70-5.90 GHz	120mm/4.7"	54mm/2.1"
QHO645	6.4-6.7 GHz	120mm/4.7"	54mm/2.1"
QHO690	6.8-7.1 GHz	120mm/4.7"	54mm/2.1"
QHO740	7.20-7.60 GHz	120mm/4.7"	54mm/2.1"
QHU205	1.98-2.11 GHz	135mm/5.3"	95mm/3.7"
QHU225	2.18-2.32 GHz	135mm/5.3"	95mm/3.7"
QHU240	2.30-2.50 GHz	135mm/5.3"	95mm/3.7"
QHU250	2.40-2.60 GHz	135mm/5.3"	95mm/3.7"
QHU330	3.10-3.50 GHz	97mm/3.8"	69mm/2.7"
QHU350	3.40-3.60 GHz	97mm/3.8"	69mm/2.7"

Please ask us if your application requires a frequency band not listed here.



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