



M O O N R A K E R

## Type VL2-30

Compact HF NVIS vehicle semi-loop antenna system

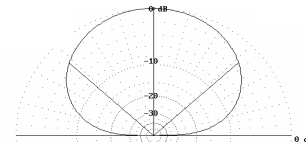


The VL2-30 is designed to provide high performance continuous close in omnidirectional communications with no skip zone.

The system requires only low RF transmit power to achieve continuous communications in the 0-1200 km range. By using high angle radiation and just the 3-17 MHz frequency band, it operates as a NVIS (near vertical incidence skywave) antenna to provide reliable low noise communications. This mode is particularly useful communicating over hills or mountain ranges, where, for security reasons, long range radiation methods are undesirable.

The system uses either the vehicle's metal roof (minimum of 2000mm (79 in long) or the optional 2000 x 330 x 6 mm (79 x 13 x 1/4 in) lightweight aluminium base plate either mounted directly onto the vehicle or using the optional fully adjustable strap end cross bars, plus either your transceiver's antenna tuning unit (ATU), suitably housed, or the optional ATU from Moonraker. The ATU may be mounted remotely from the antenna, but close by. Ideally it should be mounted on the base plate. Tuning over the band is automatic via the ATU with ALE possible, dependent upon the ATU itself. High performance is assured, even in environments subject to noise interference due to the inherent filter qualities of the design, which combines automatic frequency tuning, a narrow bandwidth and excellent NVIS propagation of the signal. An optional EMP/Overvoltage system is available for the antenna feedpoint.

For ease of transport the stainless steel antenna radiator breaks down into two short sections, each with end support insulated devices. When installed and not in use it may be laid flat on the vehicle roof via the unique lift and lay down joints. Shock absorbing springs are used to assist survival when objects strike the radiator. Exterior metal surfaces are finished in drab olive colour (other colours to order) with a high durability epoxy based coating, highly resistant to chemical attack, abrasion and the effects of ozone and ultra-violet radiation.



typical radiation pattern  
maximum radiation at 90°  
elevation -3dB at 40°

## SPECIFICATIONS

<b>Frequency Range, Overall</b>	2-30 MHz
<b>NVIS Band</b>	3-17 MHz
<b>Radiation Pattern</b>	Hemispherical
<b>VSWR</b>	<2:1, typically 1.6:1 2-30 MHz with suitable ATU
<b>Power Capability</b>	150W CW, 300W PEP, dependent upon ATU capability
<b>EMP/Overvoltage System (option)</b>	45kV 1.2/50 micro second (rise/fall times) voltage pulse, 5kA 8/20 microsecond current pulse.
<b>Antenna Dimensions</b>	1000mm (39.3 in) height to top of radiator at centre; 1880mm (74 in) centre spacing between base insulators; 85mm (3.35 in) diameter base insulators
<b>Base Plate (optional)</b>	2000 x 330 x 6mm (79 x 13 x 1/4 in)
<b>ATU (option)</b>	Tuning time initial <2 seconds, recurrent <10 milli seconds; Power capability 150W PEP, 50W CW, 12V DC (24V option) at 900 mA
<b>Weight</b>	Antenna only: 2.2kg (4.8 lbs)

Specifications subject to change 07/09

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