HF230L_OTM

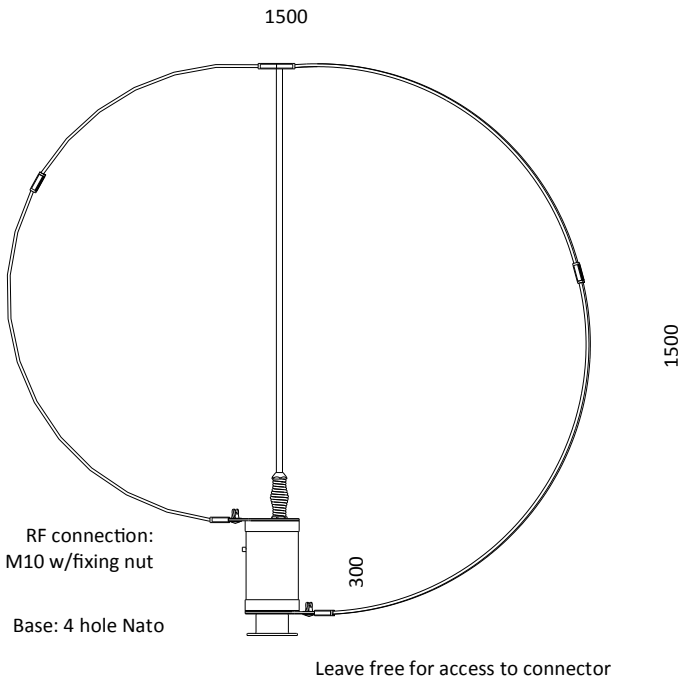
HF NVIS Loop Antenna

Description

The HF230L_OTM is a compact HF antenna for on-the-move vehicular platforms from 2 to 30 MHz. It is designed to provide superior Near Vertical Incident Skywave (NVIS) performance at distances from 0 to 500 km and allows continuous communications in ground-wave, NVIS and skywave applications.

The HF230L_OTM is a direct replacement for existing whip antennas and uses the same NATO base support. The replacement of the whip by the HF230L_OTM takes just a few minutes and requires no special installation equipment nor changes to the structure of the vehicle.

This compact antenna is recommended for multiple antenna platforms, both because of its small size and because it reduces co-site interference with all V/UHF whip antennas. The HF230L_OTM has been designed to give superior reliability and easier installation at a far lower cost compared to other HF NVIS antennas.



Electrical specifications

Frequency range	2 - 30MHz
Impedance	1 to 1000 ohm, 50 ohm nominal
Power rating	200 W PEP and average
Gain	-15dBi @ 3.5MHz, -8dBi @ 10MHz
Radiation pattern	See diagram overleaf
Power supply	18—32VDC, normally supplied from Power Amplifier
Connector	10mm stud for RF MIL-C-5015, 7pin for interface to ATU and supply voltage
Interface	The antenna has two digital inputs and one output, and a RS485 serial port. Software is then configured depending on radio system

Mechanical specifications

Design	Copper braided fibreglass collapsible radiating loop. Feed tower made from aluminium and fibreglass.
Size	Tower: 25 x 15cm (H x Diameter) Radiating loop: 150cm diameter
Weight	Total: 7kg
Wind rating	55 m/s = 125 mph
Finish	Polyurethane lacquer, normally black. Radiating element covered with black heat shrink tube
Environmental	Test method Per MIL-STD-810F Shock & Vibration Ground tactical Water resistance IP67 Temperature range -40° to +71°C
Installation	Standard 4 hole NATO base

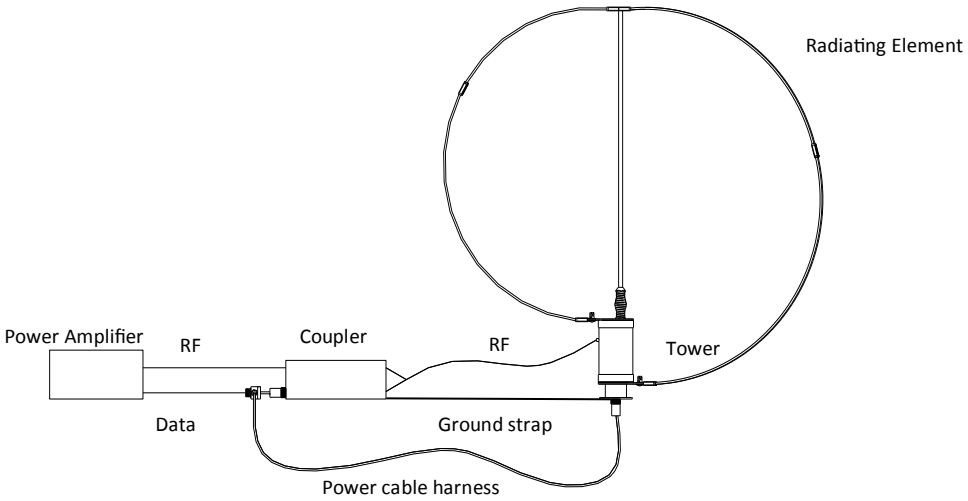
Interface description

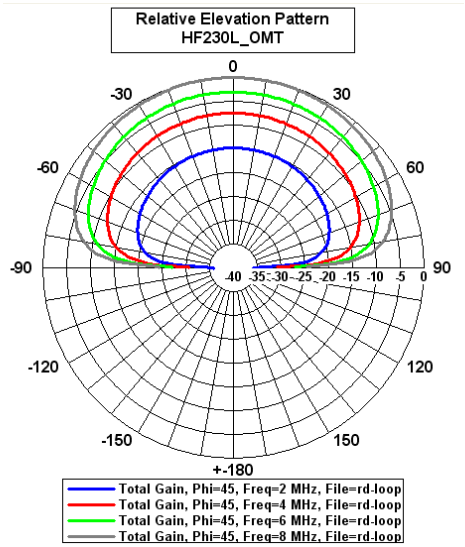
The antenna interfaces directly to the coupler of many popular HF radios. Frequency information is obtained using an internal frequency counter or received in digital format through an RS485 line. The antenna is fully compatible with Fixed Frequency, MIL-STD-188-141A ALE and 3G ALE/data modes. The antenna works with systems up to 200Watts.

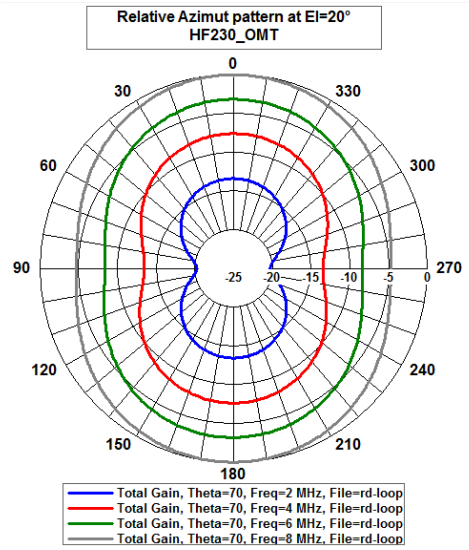
The HF230L_OTM is lightweight and has a low physical profile that helps reduce vehicle antenna placement problems and has been designed for severe military environmental conditions.

The antenna includes an easily assembled fibre-glass loop radiating element, a support rod with spring which gives mechanical support, a low-profile tower unit which adapts the impedance for high efficiency tuning by the coupler, an interface cable, an RF cable and a ground strap.

The existing whip can be stored in the vehicle as an emergency back-up.







Complete antenna / Parts

Article number	NATO codification	Description
NATO codification and exact part number varies according to radio system. Please contact Comrod for the correct numbers for your system.		Complete antenna system
		Radiating element consisting of: 1 loop element 1 Centre support
		Tower
		Installation kit consisting of: HV protection boot Mounting bolts, ground strap, etc.
		Cable harness

Bolt pattern, 8 hole NATO