HF230L-B

HF basestation loop antenna, NVIS, 2.5 m diameter, 1.6-30 MHz

Tactical Antennas: Tactical and Base Station

Description

The HF230L-B is a compact HF antenna for rapid deployment to create a base station working from 1.6 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 communications characteristics of the antenna are similar to a wire antenna mounted on a 10 m mast.

The HF230L-B is a direct replacement for existing mast mounted HF base station antennas with the important advantage of only requiring a fraction of the time and space to install. The mounting of the system only takes a few minutes and requires no special installation equipment.

This new generation HF antenna is difficult to detect because of its small size and, most importantly, it reduces co-site interference with other HF and all VHF/UHF whip antennas.

Electrical Specifications

Frequency Range	1.6 - 30 MHz
Impedance	1 to 1000 Ω 50 Ω nominal
Power Rating	400 W PEP and average
Gain	- 10 dBi @ 3.5 MHz - 4 dBi @ 10 MHz
Radiation Pattern	Omnidirectional for NVIS
Power Supply	18 - 32 V DC, normally supplied from Power Amplifier
Connector	10 mm stud for RF MIL-C-5015, 7 pin 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

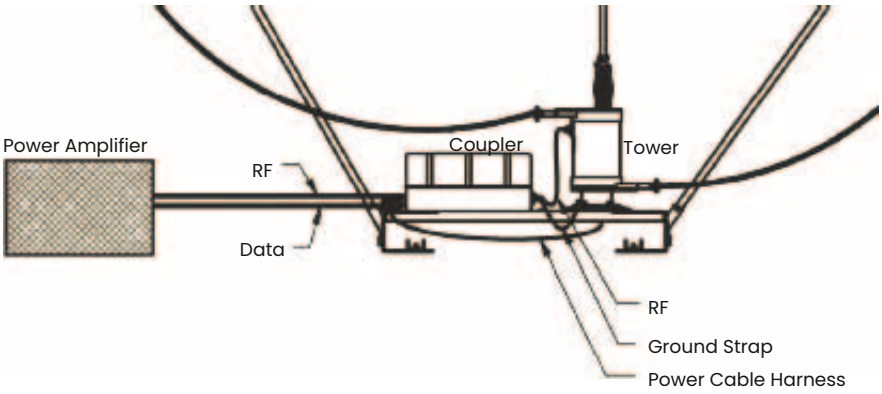
Design	Copper braided fibreglass collapsible radiating loop. Feed tower made from aluminium and fibreglass.
Size	Base Plate: 115 x 30 cm Radiating Loop: 250 cm diameter
Weight	approximately 17 kg (without ATU)
Wind Rating	55 m/s = 201 km/h
Finish	Anodize, Black Radiating element covered with black heatshrink tube
Environmental	Test Method: Per MIL-STD-810F Shock and Vibration: Transportation Water Resistance: IP67 Temperature Range: - 40°C to + 71°C
Installation	see Comrod installation manual

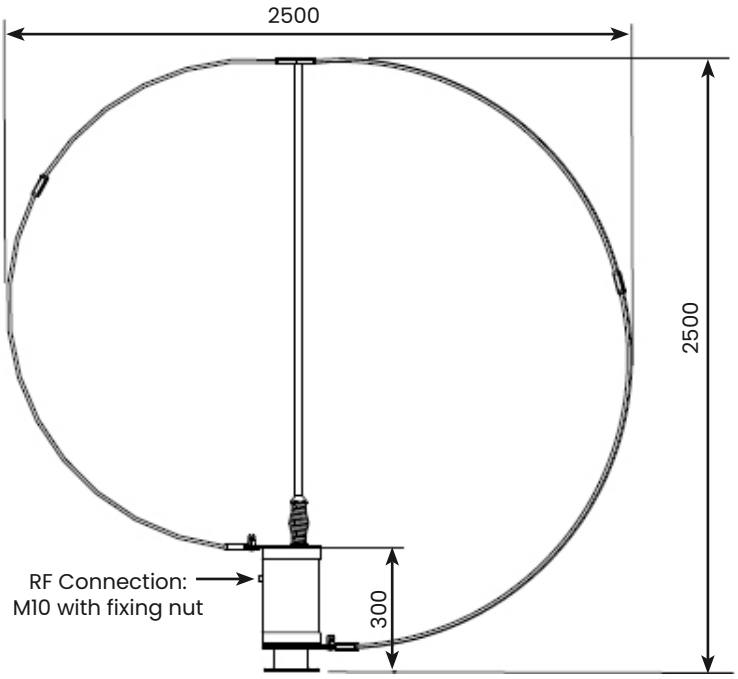
Interface Description

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 400 Watts.

The HF230L-B is lightweight and has a low physical profile that helps reduce antenna placement problems and has been designed for severe military environmental conditions.

The antenna includes an easily assembled fibreglass 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 mounting of the antenna is described in the user manual. The base, as shown, is made up of the platform for the antenna and the associated coupler. The hole pattern for the coupler fits several of the most popular couplers, more info on request. Other patterns on request.

There are two supports as shown to give stability to the system. The base plate has telescopic support arms that can be fixed to ground.

Kit List

Kit List	Quantity	Article Number	NATO Codification
Loop Elements	3	NATO codification and exact part number varies according to radio system.	
Centre Support	1		
Side Supports	2		
Tower on Mounting Plate			
Installation Kit consisting of: HV Protection Boot Mounting Bolts, Ground Strap	1		
Cable Harness	1		

Optional Parts

Bag for Radiating Elements	1
Bag for Tower	1

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Partnered Supplier

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