

2018 Mobile magnetic loop HF antenna



- Highly efficient - radiates 10 dB to 14 dB more than a whip antenna
- True NVIS operation virtually continuous HF coverage from 0 to 1000 km +
- Noise reduction - increased immunity to ignition and power line noise
- Covert - easily disguised for covert applications
- Simple design - mechanically simple and robust folding mechanism
- Simple installation - does not require welding or mounting plates



2018

HF Radio Communications

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Applications

- Border Patrol
- Customs
- Military
- Police
- Mining, Oil & Gas
- Aid & Relief
- Peace Keeping
- Paramilitary
- Emergency Services
- Conservation

High performance

The 2018 mobile magnetic loop HF antenna is significantly more efficient than whip type vehicle antennas, producing considerably more efficient transmission and reception. The received signal relative to a whip antenna systems improves by +10 dB to +14 dB. Base antenna RF currents in a typical whip system are in the order of 1.5 Amps, whereas the antenna current in the Barrett 2018 approaches 15Amps.

The 2018 antenna includes a built-in broadband scan amplifier which allows it to be used with systems containing Automatic Link Establishment (ALE) and multi-frequency networks operating in a Selective Calling scan group.

The radiation pattern of the 2018 antenna has low angle nulls toward each side of the vehicle, effectively reducing noise from adjacent power lines which commonly affect vehicles driving on remote roads that have high voltage distribution lines in close proximity.

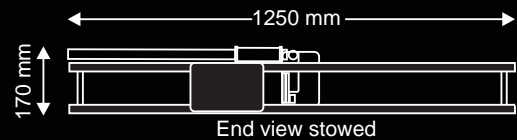
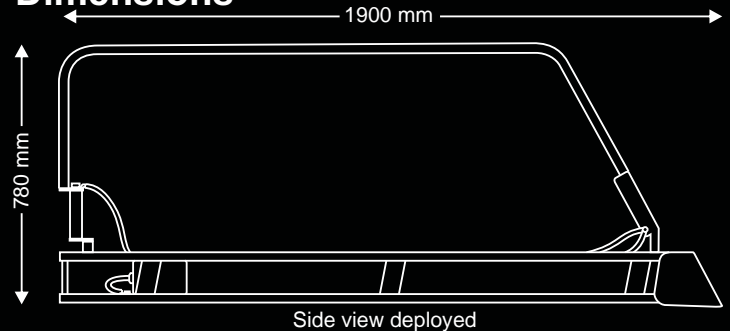
All terrain coverage and continuous short range HF coverage

As the 2018 predominantly radiates RF energy towards the ionosphere it is without doubt the best type of antenna for vehicular NVIS (Near Vertical Incidence Sky wave) operations and is effective in overcoming the skip zone common in whip based antenna systems providing superior operation in the range 30 to 150 kms. For the same reason the 2018 antenna is highly effective for communication in mountainous areas.

Rugged construction

The 2018 Mobile magnetic loop HF antenna has been integrated in a roof rack. The ground plane for the antenna is a heavy duty aluminium mesh floor, which is welded to the frame bars, maximising current within the radiating loop. Using a closed magnetic loop antenna design, the antenna effectively shields and isolates vehicle ignition noise thus providing greater clarity in communications.

Dimensions



The roof rack is field proven in some of the world's worst remote area conditions and is designed to withstand rough corrugated, pot holed and unsealed roads.

Mounting hardware sets are available to suit most types of vehicles, including Land Rover Discovery, Toyota Land Cruiser, Toyota Prado, Nissan Patrol and Mitsubishi Pajero. Custom brackets can be made for all types of military vehicles.

Specifications

Frequency range	3.9 MHz to 12.2 MHz for the standard size rack	
Power supply	12 V to 13.8 V DC (provided from the transceiver)	
Supply current	1.5 Amps peak, 400 mA standby	
Input impedance	50 ohm typically with <2:1 SWR	
Power rating	125 W PEP	
Polar radiation	Less than 5 dB variation at angles above 45°, maximum power radiated towards zenith	
Tune signal	Varies depending on transceiver used	
Tune power	2 to 15 W	
Control	From transceiver	
Tune time	Within 3 seconds	
Tuning method	Continuously variable tuning	
Drive method	Precision stepper motor	
Tune point	Peak antenna current	
Antenna bandwidth	40 kHz @ 3.9 Mhz 280 kHz @ 12.2 Mhz	
Scan amplifier noise	<11 dB above thermal	
Receive 3rd order intercept	>25 dBm	
1 dB compression	>+10 dBm	
Temperature	Operating	-30°C to 60°C
	Storage	-30°C to 80°C
Humidity	95% non-condensing	
Environmental rating	MIL-STD 810G (immersion). Fitted with a pressure equalising breather to equalise pressure without allowing the ingress of moisture.	
	MIL-STD 810G Method 516.6 for shock	
	MIL-STD 810G Method 514.6 for vibration	
	MIL-STD 810G Method 510.5 for dust	

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