



Q-MAC Electronics

MX9027 ML-90 NVIS Roof Rack Magnetic Loop Antenna

TACTICAL COMMUNICATIONS



NO SKIP ZONES

NVIS PROPAGATION

MAGNETIC LOOP ANTENNA

Mobile HF Radio



Innovative Vehicle HF Communication Solution

The Q-MAC ML-90 Vehicle Roofrack Magnetic Loop Antenna is a technological breakthrough in vehicle-based HF radio communications. At the core of the system is the renowned HF-90 transceiver, which is combined with the innovative Magnetic Loop Auto Tune antenna.



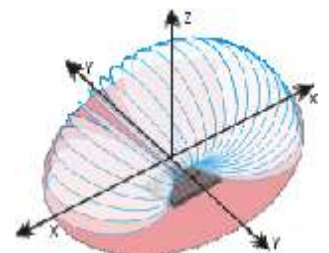
The ML-90 is available in a choice of two packages; a fully installed system for fixed installations, and a removable package for rental vehicles or short-term use. The removable package can be installed without any drilling of holes in the vehicle.

The ML-90 Magnetic Loop Antenna is without doubt the best type of antenna for NVIS (near vertical incidence skywave) operations. Skip zones are eliminated and coverage (with the correct selection of frequency) is from 0 to 1000Km or more. Within this range it is significantly more efficient than any whip-type vehicle antenna, producing considerably more transmit and receive power.

The actual gain over whip antenna systems varies between +10dB to +14dB. The benefit to the user is that it radiates significantly more power, and magnifies received signal strength, giving overall performance much higher than can be achieved from any vehicle whip antenna system.

Features

- No Skip Zones
- 0-1000Km+ Range
- 14dB more powerful than whip
- Fast Auto Tuner
- Non Intrusive Mounting
- Convenient Roof Rack
- NVIS Propagation
- Rapid Installation
- Folds Down When Not In Use
- Suits Many Vehicle Types
- Reduced Ignition Noise



Radiation Diagram for ML-90





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ML-90 Features

- Highly efficient antenna, radiating 10dB to 14dB more than whip antennas. Equivalent to a 500 Watt transmitter with a whip antenna.
- Simpler installation – no need to weld on a mounting plate for a whip, and no separate tuner to install – therefore installation is quicker & cheaper, and the system can be moved simply between vehicles.
- Roof rack with every package! The antenna can be used as a conventional roof rack for storing luggage and non-flammable items.
- Eliminates Skip Zones. A HF system that can be used in ranges from 0-1000Kms and more.
- Reduced Ignition and power line noise.
- Frequency range 3.5-15MHz

MX9027 Install Package Includes:

- Q-MAC HF-90M Transceiver, complete with military grade telephone handset (Selcall, & front panel programming optional).
- Q-MAC ML-90 Magnetic Loop Antenna, built into aluminium roof rack, complete with integral automatic tuner box in marine grade enclosure, cabling & mounting kit.
- Q-MAC Vehicle Installation Kit - Comprises HF-90M Mounting Cradle, antenna coaxial cable & connectors, HRC fuse (20amp) & holder, battery lugs and cable ties.

Mechanical and Technical Details:

The roof rack has been designed by Q-MAC Electronics Pty Ltd as integral part of the antenna design and forms part of the overall emitting solution. The ground plane is a heavy-duty aluminium mesh floor, which is welded to the frame bars that maximizes current within the radiating loop. The ML-90 isolates ignition noise from the vehicle providing a greater clarity in communications as well as providing nulling of noise from adjacent power lines.

The ML-90 can be fitted to almost any surface. The roof rack comes in 2 sizes and a range of mounting bracket options. Solutions are available that will allow clamping to the roofs of 4WD's, personnel carriers, sedans, buses, trucks and prime movers. It is designed for minimum wind noise and has a polycarbonate wind deflector to improve fuel economy over conventional designs.

Standard Size Roof Rack Dimensions 1800 x 1250mm.

Compact Size Roof Rack Dimensions 1500 x 1250mm,



Note:

The ML-90 is partially compatible with the HF-90M Frequency Hopping Option. Due to the tight receive bandwidth Frequency Hopping may only function from frequencies above 8MHz.



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The Q-MAC Electronics Pty Ltd ML-90 Vehicle Roofrack Magnetic Loop Antenna System is protected by Australian Patent App No 2001100423.