MOONRAKER

Type AT230

Automatic tuning antenna system
for multi-frequency HF radio mobile and base station communications

Designed to provide automatic microprocessor controlled continuous tuning from 2 to 30 MHz from the transceiver without the use of an antenna tuning unit (ATU).

The Moonraker Type AT230 Auto Tune antenna system is comprised of a 2.55m whip (8.4ft) together with the AT104 antenna control unit (ACU). Typical tuning time for one channel frequency to another is 1 to 2 seconds with maximum time dependent upon channel separation. NVIS (near vertical incidence skywave) communications is achieved by pulling the top whip section of the antenna down to a near horizontal position and securing with a non conductive material.

The system is fully automatic and on installation no further tuning or technician programming is required. It is robust, reliable and extremely rugged and has passed extensive testing in off road remote conditions, including tropical jungles and arid environments, as well as populated areas. The whip may be mounted low down on the vehicle behind the bull bar, on the bumper bar or even on the tow bar, and relatively close to the body work on forward control vehicles and buses.

Construction is of anodised aluminium alloy tubing with a sealed lower section housing the control devices, mid section and stainless steel whip top section, which may be easily removed to facilitate garaging. Centre loading is utilised for maximum performance and a wide band HF amplifier, located in the antenna base section and operated via the ACU, provides enhanced reception of weak signals, particularly when the receiver is in scan mode.

The ACU, the interface between the antenna and the transceiver, contains the sensor and controlling electronics. It is compatible with even basic transceiver types that are able to provide continuous RF for tuning purposes by arranging the ACU to control the transceiver using a remote PTT line, an external initiate switch and an audible tuning indicator. Fully automatic operation is possible with more sophisticated transceivers. It can be installed in any convenient position in the vehicle other than the engine bay or can be used up to 20m (65.6 ft) from the antenna for base station installations.

SPECIFICATIONS

Colour	Black
Frequency Range	Any frequency between 2-30 MHz
Channel Capacity	Infinite between 2-30 MHz, continuously variable
Length	With whip top: 2.55 metres (8.4 ft); whip top removed: 1.3m (4.2ft)
Pattern	Omnidirectional
Polarisation	Vertical; part horizontal (NVIS) possible
Input Impedance	50Ω (nominal)
VSWR	1.9:1 (typically 1.3:1)
Power Rating	140W PEP; maximum data 4 mins per 1/2 hour at maximum power (maximum power 100W 4-30 MHz, 50W 3-4 MHz, 30W 2-3 MHz)
Power Consumption	Static: 100mA; tuning: 2A (typical); 12v DC nominal
Mountings (Antenna)	Anti-vibration mount, 12mm zinc plated steel stud, 30mm (1.2 in) long, supplied with nut and washers
Packed Weight	Antenna and control unit: 6 kg (13.2 lbs)

Specifications subject to change – Issued 07/13

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