Selbstausrichtende Camping-Antenne

Description

The mobile antenna system is an innovative and clever device for the reception of television satellite signals on stationary vehicles. GIBERTINI developed in different models, nominally differing in design configuration and features, in order to satisfy different market requirements.

The antenna structure is rather small and compact and the software is quite sophisticated; all mechanical, electrical parts as well as the controlling firmware are fully designed and manufactured in Italy by GIBERTINI.

Specific tailor-made features can be optionally added to enable you to have a customized product: a brand logo can be printed on the dish face, Control Unit and MMI can have a frontal personalized sticker, on the MMI the brand name will appear on the display at switch on.

Characteristics elements are the rugged construction with aluminium arms joint. Dish reflector, brackets and feeedarms are aluminium powder coated with U.V. inhibited polyester-based finishes. All moulded aluminium parts are submitted to "*surtec*" treatment for corrosion protection.

For every dish size different system configurations are foreseen:

- Multi Satellite Model
- Single Satellite Model

Mayrwiesstr. 25
5300 Hallwang

Tel.: +43 (0)662 - 66 15 56
Fax: +43 (0)662 - 66 09 63

satec@satec.at
www.satec.at

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Multi Satelitte Model

This model includes a firmware that accommodate the selection between a list of satellites and all control of the antenna is done through an MMI box with display.

The antenna package includes:

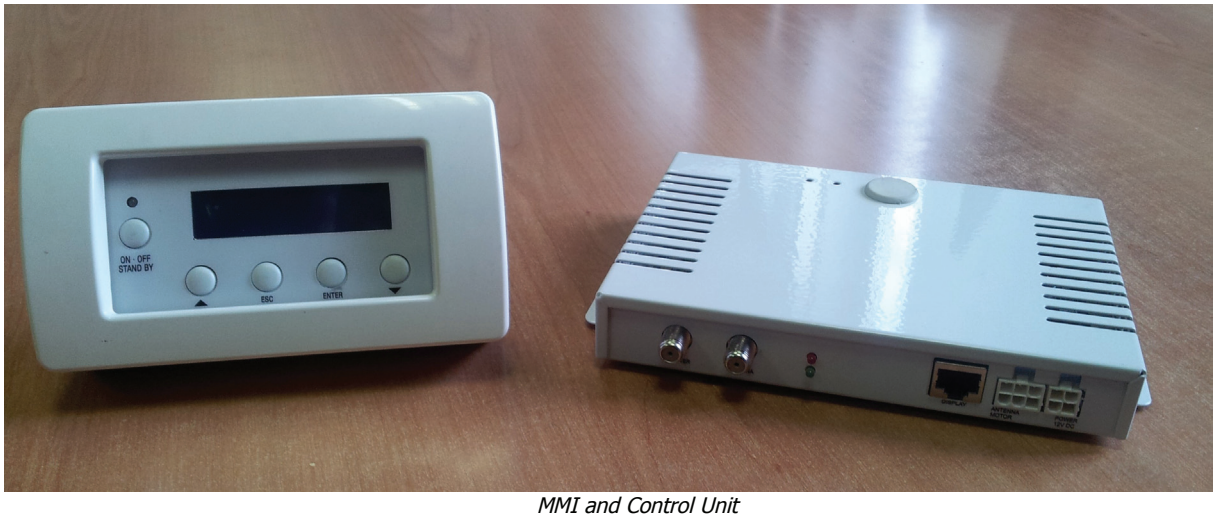
- Motor Unit with feedarm, feedholder single output LNB already assembled;
- Control Unit with multi satellite firmware installed
- MMI
- Cables and Harness
- Dish with back bracket already fixed

Single Satellite Model

This model is equipped with an automatic pointing firmware for a single satellite of your choice, and factory configured by default. A change of the satellite can be easily done even after installation using USB upgrade port or with SD card. This configuration doesn't foresee the MMI box.
Anyway, the possibility of upgrading a Single Satellite Model to a Multi Satellite Model is optionally available buying an additional kit.

The antenna package includes:

- Motor Unit with feedarm, feedholder single output LNB already assembled;
- Control Unit with single satellite firmware installed
- Cables and Harness
- Dish with back bracket already fixed



MMI and Control Unit

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General data

Mechanical

The MAS Motor Unit is mounted on aluminium casting base-plate that support the overall structure.

The Azimuth and Elevation gear-boxed DC motors are coupled to the respective worm-gear reducer with a simple clutch that allows easy mounting and dismounting procedure.

The worm-gear units are a special designed parts composed by an aluminium casting body with a casting gear and steel worm; all axes are supported by ball bearings and additionally, the worm is fixed in position with a roller bearing.

All steel parts are protected by suitable surface treatments, and screws, nuts and washers are in stainless steel.
The arm is also powder painted, and the dish is an aluminium part with a polyester based UV inhibited powder coating.

Plastic parts are produced using specific UV resistant materials.

Electrical

The Mobile Antenna System is controlled by a set of hardware parts interfaced through RS485 digital bus.

The Control Unit perform all the tasks needed for satellite search and acquisition, as well as a monitoring function to the correct operation; any disease is reported to the user on MMI or, depending on the model, with proper sound/led visualization.

The satellite acquisition and lock is done via a set of predefined parameters and the reconnaissance of the associated Network Information Table transmitted by the satellite and corresponding to the selected reference channel.

In order to limit the trouble in the case where reference channels are changed by the satellite provider, the CU Firmware perform the satellite search using two set of frequencies/channel for each satellite: the first search cycle on overall Azimuth and Elevation range is done with a primary list of parameters, than in case of unsuccessful result, a second search cycle with a secondary parameters list is initiated.

The CU can be updated/upgraded using a simple software running on a PC via the USB interface, or more easily, by means of the SD-Card interface.
In the Motor Unit, each motor is interfaced with is own Motor Driver board, that provide the correct power supply, motor control and communication with the CU.

The MMI, in the Multi Satellite Model, provide a self explaining interface to the user by means of a 2-row display and 5 functional push buttons.

MMI can be installed with is own box or with recess assembly.

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MOBILE ANTENNA SYSTEM – GENERAL SPECIFICATIONS			
Antenna operating bandwidth	10.7GHz ÷ 12.75GHz		DVB-S Ku-band
Output Frequency band	900MHz 2250MHz		LNB IF band
Modulation	QPSK		DVB-SI EN 300.468
Antenna Gain	35dBi @ 11.7GHz 38 dBi @ 11.7GHz		60cm model 85cm model
LNB characteristics	Gain ≥ 50 dB NF ≤ 0.6dB		TWIN LNB as option
No. of stored Satellite	Up to 12	1 sat for Single Sat Model	Up-datable via USB or SD-Card
User Interface	Control box: 5 keys with 2 rows alphanumeric display for Multi Satellite Model	Single push-button with a yellow/green led for Single Satellite Model	
External Interfaces: LNB Input RF Output MMI User I/F	 75 ohm ± 10% 75 ohm ± 10% RJ45/8 female USB-B receptacle SD-Card	 F-female F-female DIL_ male	 User Decoder connector For system up-dating & up-grade.
Protection: Supply Voltage range LNB failure check AZ/EL (& skew) Motors Control Unit board General Engine ON protection	 Low/high supply voltage Open or short circuit Idc > 8Adc Ibias > 500 mA Idc > 10Adc Dedicate internal signal for immediate antenna closure	 Audible tone e signalling Audible tone and led signalling Active for over-current Active for over-current & over-voltage Retarded 5A fuse @ engine key insertion	 MMI/or led depending on model Self recoverable Self recoverable Audible alarm tone
Supply voltage	13Vdc ± 2.0V		Over-voltage protected
Power supply: Motors ON Motors OFF Stand-by	 Max 8Adc peak < 350mAdc < 60mAdc	 Max 1sec /5A max 10sec	 @ nominal Vdc

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