Direction Finding Antenna set for VHF

Features

- Adcock based mobile antenna set to find the direction of ground and low elevation sky waves
- Frequency range: 100 to 500MHz
- Polarization: vertical
- Full 360 degree direction coverage
- Automatic North direction calibration using electronic compass
- Built-in GPS receiver for positioning of and time synchronization
- “Quick move, deploy and move again” tripod based DF antenna
- Fully computer controllable
- DF method: Wattson-Watt

Product description

The SDA-100A antenna set consists of four low VHF antenna arms with dipole antenna elements (LVHF-DIP-V40) and antenna head. The antenna head is housing the signal processor unit, GPS antenna and electrical compass.

The set contains all elements which are necessary for reception of the radio frequency signal and applying the modulation content of the incoming signal to operate the direction finding functions of the SDF-3000 DF receiver.

The SDF-3000 receiver is able to control all of the functionality of the antenna set based on SDA-100A antenna’s signal processor with its own control program by the menu commands of the operator or remote control software.

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Antenna head

The equipment uses an integrated antenna head for reception of incident waves. The antenna head integrates the antennas, the antenna signal processing including the low-noise preamplifiers and the navigation module with GPS and compass. This integrated construction enables using the antenna in different missions. It can be operated in different ways; like fix site, semi- or full mobile or man-portable operations are supported too.

On the side of the antenna head - made from milled aluminum - there are four N type connectors for mechanical fixing and for electrical connection of the antenna arms and receiving antenna elements. On the bottom of the head the RF output connector, the control cable's six pole connector and the mechanical element - for mounting it on a mast - can be found.

Antenna elements

The antenna signal processor contains connectors for 4 re-movable wide-band antenna elements.

Antenna head wit mounting element

Antenna head (GPS antenna on the top)

Antenna arms and dipole elements

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Automatic positioning

The antenna head has a built-in electronic compass; this means that automatic calibration of the bearing measurement can be done without any human interaction. The displayed bearing can be relative (to the antenna head) for homing operations or absolute (to the magnetic north) for geolocation measurements.

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Specification summary

Antenna	
Type	Adcock
Output impedance	50 ohm
Output connector	Type N
Antenna head	
Number of input	4 (NS +/-, EW +/-)
Input impedance	50 ohm nominal
Frequency range	100-500 MHz
Antenna input connectors	Type N
RF output connector	IP68 SMB type (PX0414/0M50)
Output impedance	50 ohm nominal
RF cable	10m (up to 30m optional)
Control connector	IP68 6 pin (PX0412/06S)
Control cable	10m (up to 30m optional)
Fixing	Mounting elements for 30-40mm diameter mast.
Navigation	
Location	Built-in GPS receiver
Antenna North calibration	Built-in electronic compass
Powering	
External power requirements	9-12V DC / 0.2A max.
Power feed	Trough the control cable
Mechanical	
Size (installed antenna)	W300 x L300 x H300mm
Size (for transportation)	W100 x L300 x H150mm
Weight	1.5 kg
Color	RAL7035 light gray or RAL6031 nato green
Location and positioning	
Location	Built-in GPS receiver
Antenna North calibration	Built-in electronic compass
Environmental	
Operating temperature	-10 - +50 deg C

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