MAGELLAN®

PROFESSIONAL

ProMark 500 GPS + Glonass antenna

July, 2009

1 Revision History

Track the revision history of the Document.

Release	Date	Author	Comments
1.0	July, 2009	E.Moisset	Creation

2 Acronyms

GG GPS/ Glonass
GNSS Global Navigation Satellite System
GPS Global Positioning System
N/A Not applicable
NMEA National Marine Electronics Association
NTRIP Networked transport of RTCM via Internet Protocol
OS Operating System
PPS Pulse Per Second
PVT Position Velocity Time
RTCM Radio Technical Commission for Maritime Services
SBAS Satellite Based Augmentation System
TBC To be confirmed
TBD To be defined
USB Universal Serial Bus
WAAS Wide Area Augmentation System

3 Table of content

4 Introduction

ProMark500 GNSS receiver is using an internal GPS + Glonass antenna from Aero antenna. The model number from Aero antenna is the following: AT 1675-30

5 GNSS antenna characteristics

5.1 AT1675-30 specifications

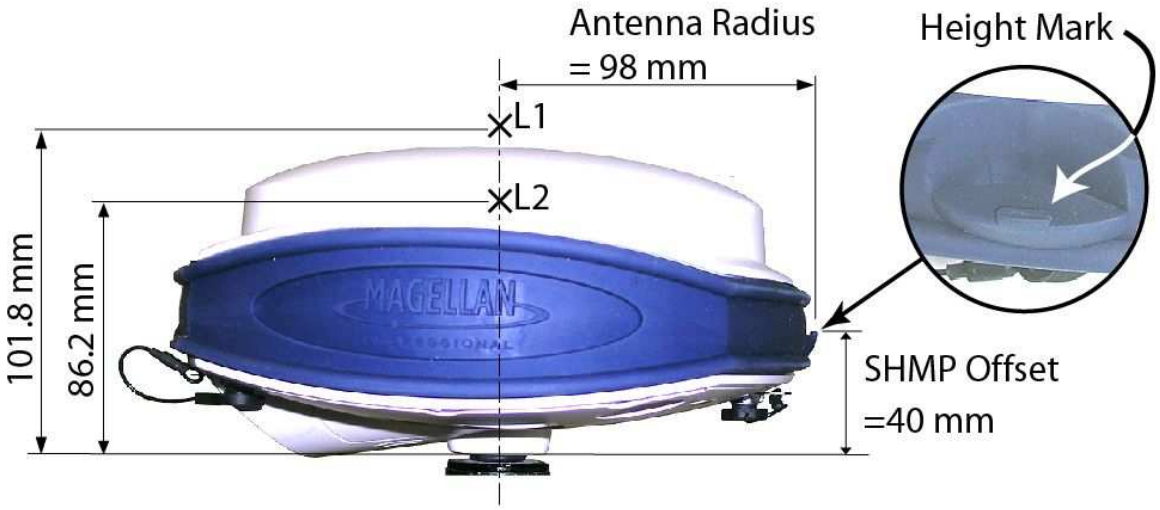
Antenna Characteristics

SPECIFICATION:

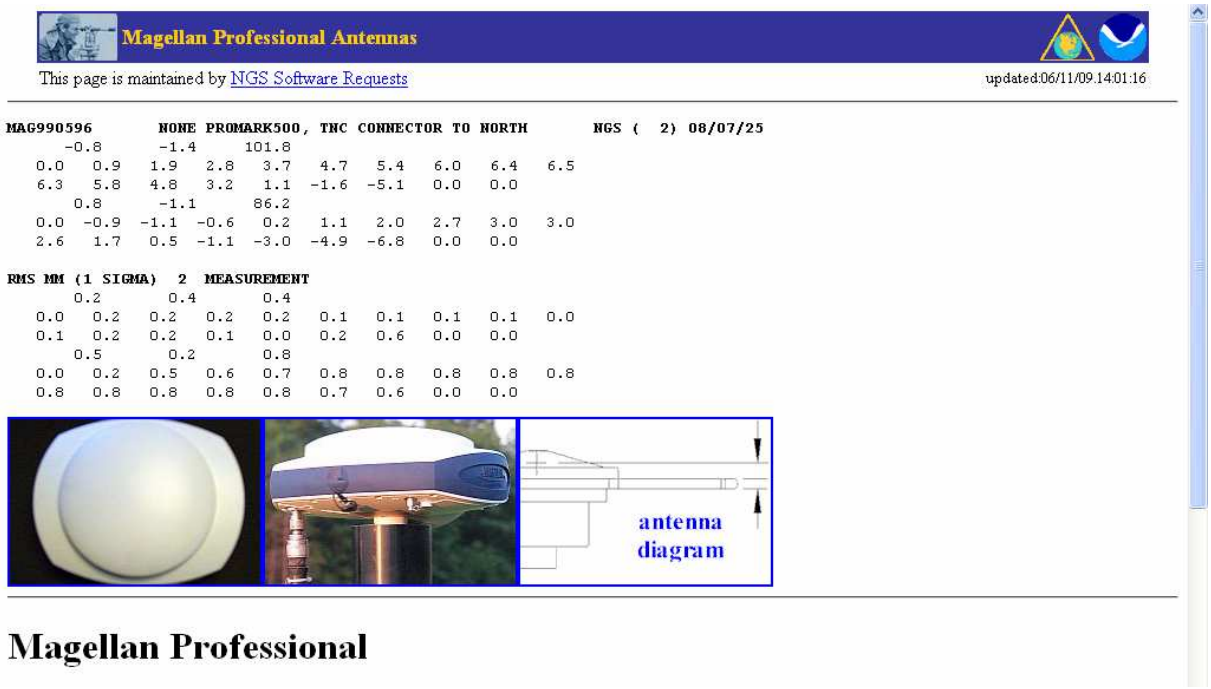
FREQUENCY:	1590 ±25 MHz 1238 ±21.5 MHz	
POLARIZATION:	RIGHT HAND CIRCULAR	
AXIAL RATIO:	3 dB MAX @ BORESIGHT	
RADIATION COVERAGE:	ELEVATION ANGLE	MINIMUM GAIN
	>15°	−2.0 dBic
	10°	−3.0 dBic
	5°	−4.5 dBic
	0°	−7.5 dBic
AMPLIFIER:		
NOISE FIGURE:	2.5 dB MAX	
IMPEDANCE:	50 OHMS	
VSWR:	≤2.0:1	
VOLTAGE:	+4.25 TO +15 VDC	
CURRENT:	50 MAX	
CONNECTOR:	MMCX RIGHT ANGLE	
WEIGHT:	5.8 OZ	
OPERATING TEMP:	−40°C TO +75°C	
DESIGNED TO:	DO−160	

5.2 ProMark 500 antenna characteristics (page 11 of the user manual)

The diagram below gives the dimensional parameters of the ProMark 500 antenna required for the system to determine the true height of the antenna from the measured value obtained using one of the standard height measurement methods, i.e. slant or vertical. The height mark allows you to hook the measure tape onto it so you can unroll the tape down to the survey mark and read the slant height measurement directly on the tape.



6 NGS calibration report of the ProMark500 antenna



Magellan Professional Antennas

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MAG990596        NONE PROMARK500, TNC CONNECTOR TO NORTH        NGS (  2) 08/07/25
      -0.8      -1.4     101.8
   0.0   0.9   1.9   2.8   3.7   4.7   5.4   6.0   6.4   6.5
   6.3   5.8   4.8   3.2   1.1  -1.6  -5.1   0.0   0.0
       0.8      -1.1      86.2
   0.0  -0.9  -1.1  -0.6   0.2   1.1   2.0   2.7   3.0   3.0
   2.6   1.7   0.5  -1.1  -3.0  -4.9  -6.8   0.0   0.0

RMS MM (1 SIGMA)  2  MEASUREMENT
       0.2       0.4       0.4
   0.0   0.2   0.2   0.2   0.2   0.1   0.1   0.1   0.1   0.0
   0.1   0.2   0.2   0.1   0.0   0.2   0.6   0.0   0.0
       0.5       0.2       0.8
   0.0   0.2   0.5   0.6   0.7   0.8   0.8   0.8   0.8   0.8
   0.8   0.8   0.8   0.8   0.8   0.7   0.6   0.0   0.0
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http://www.ngs.noaa.gov/

7 ProMark500 GPS + Glonass antenna specification: AT1675-30