PROTON MAGNETOMETERS



APPLICATIONS

DIVING - Ideal tool for the location of all types of wreck and underwater ferrous structures. Allows very effective searching of large areas from the surface.

FISHING - For ease of re-locating good wreck fishing marks and searching for new unfished wrecks which abound in waters around many shores.

SURVEY - Unlimited applications in all types of archaeological wreck investigation, plus general marine survey for cable, pipelines and ferrous targets.

SALVAGE - An essential tool for the successful salvage operator in terms of cost effectiveness and efficient target location ahead of recovery operations.

FEATURES
I GAMMA RESOLUTION
0.5Sec POLARISATION
GRADIOMETER RANGES
NAVIGATOR INTERFACING
SONAR INTERFACING
P C COMPATABILITY
WEATHERPROOF UNIT

INTRODUCTION.

The AQUASCAN MC5 has been developed from the highly successful WRECKFINDER MC4 to give a magnetometer with even better performance than the MC4, the design uses a more powerful microprocessor than the MC4, and introduces for the first time in our range of magnetometers the advanced *turbo-polarise* feature. This means that the MC5 can now be operated on it's high sensitivity range with a polarise time of half a second. As any professional wreck hunter knows, the distance the magnetometer probe travels between measurements can mean the difference between success and failure when searching for small ferrous objects such as iron cannon. The half second polarise period of the MC5 cuts the distance travelled by the probe by more than half when compared to the MC4.

The MC5 has a range of interface capabilities to provide hardcopy results via a PC/ printer, a composite print can be achieved by utilising positional information from a navigation instrument, units of position are input via an **NMEA** interface port. An additional software option outputs an ASCII sentence suitable for data-logging via the COMMS port of a PC.



Toroid sensor with Cable & Drum

SYSTEM DESCRIPTION

The MC5 INSTRUMENT comprises an electronic module together with a choice of Toroid & Solenoid sensors (towfish) plus optional cable lengths. The standard cable length supplied is 40M (130ft) stowed on a light-weight storage drum. Lengths of cable up to 60M(200ft) can be supplied with the standard Solenoid or 300M (1000ft) with the optional High Power Dual Sensor. Both of the above sensors are contained in durable plastic housings. For parts of the world (equatorial) where the earth's magnetic field has a reduced angle of inclination, the AQUASCAN Toroid sensor is recommended (see price listed options).

The MC5 is a multi-control instrument with fully automatic setup. An AREA TUNE control is provided for optimising the signal strength received, this is used in conjunction with a signal strength meter. NB.area tuning is only done initially or when relocating to a new venue of some tens of miles or more distant. The microprocessor design features the following additional controls :- RANGE SETTING, POLARISE TIME, ALARM SET, AUDIO LEVEL & POWER ON-OFF. A large scale meter indicates measured deviation compared to an initial sample, this is displayed as a centre '0' reading. With the RANGE switch set to X1 the magnetometer is at it's most sensitive, giving a scale of -50 to +50 gamma (Nt).

The MC5 system is offered with a range of plug in software options to give it stand-alone or PC compatibility for datalogging. NMEA positions and depths can be correlated with the magnetic reading to be recorded where a PC is available during the course of survey operations. Results can be logged, filed and subsequently filtered, processed and revieved in 2D and 3D formats.

PC VIEW/PRINTOUT



The above printout is part of a survey, that located a valuable vessel laden with copper cargo, prior to subsequent salvage operations. The trace shows the magnetic influence of the wreck as the survey boat passed the wreck from N. to S. and at some distance to the West.

SPECIFICATION

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CABLE	
Diameter	8.0mm Arctic grade PVC
Length options from	

INSTRUMENT CASE

Housing	
Overall length between gimbals	
Bracket (Stainless Steel)	

SOLENOID PROBE

Plastic pressure housing	with moulded nose & tailfin array:
Standard	460mm(L) x 90mm(W) x 150mm
High power	700mm(L) x 90mm(W) x 150mm

TOROID PROBE

Cast Epoxy sealed housing	
Polarisation time	0.5, 1, 2, 3 seconds
Power+12v	@ 1.5amps +24v @ 2.5amps
Alarm settings	OFF, 10, 20, 50 nT
Ranges LIN (0+/-5000nT. GRAD 0+/-100nT

AREA TUNE RANGE

World	25000 t	to 65000	(nT)/W
European	40000 to	o 65000	(nT) / E



SENSITIVITY / RESOLUTION

1nT in range
2nT in range
GRADIOMETER RANGE
Indicates the difference between successive readings
MEASUREMENT DISPLAY
1mA moving coil meter.
INPUT / OUTPUT (OPTIONAL)
1 Print/PC o/p interface port 1200/4800 Baud (5v logic)**
1 NMEA 0183 i/p interface port Lat/Lon GGA/GLL/RMC
1 NMEA 0183 input interface port for \$SDDBT (depth)
** Optional fully opto-isolated RS232 output port.
Mc5spec 0602.doc