

Approval Date: 20 May 1998

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Version: 1

Purpose

The bathymetric data collection process will be controlled by a PC. The PC acquires data from the DGPS and the echo-sounder, further it provides the operator and the helmsman with status and controlling information. All collected data are recorded on PC hard disk.

Conditions & Requirements

- The laptop PC shall be of such a design that it operates reliably under the prevailing environmental conditions as encountered during travel and field visits.
- The laptop PC is intended for mobile use, therefore it shall be of a robust design.
- The laptop PC shall be shock, moisture and dust resistant.
- The laptop PC shall be easy to operate and maintain.
- The laptop PC shall be supplied with the accessories as needed for an effective roving application.
- The laptop PC shall have an expected technical lifetime of not less than 5 years.
- The laptop PC shall be capable to operate without any servicing.
- The data shall be collected via serial interfaces, connected to equipment such as a hydrographic echo-sounder, a DGPS, an ADCP, a Compass, a current meter.
- The laptop PC shall meet the interfacing requirements for the hardware, viz.: echo-sounder, DGPS and helmsman display. Further an external keyboard and an external mouse shall be supported. The PC shall be fitted with all the required interfaces and connectors. If needed, an expansion interface is to be part of the delivery. For this one of the PCMCIA slots may be used.
- All required interfaces, including expansions, shall be supported by the operating system and the data collection software.
- Operator's and technical manuals, related to the type and model of the laptop PC, the interfaces, the accessories and software shall be part of the delivery. This is quite important as on board (site) adjustments to the PC/interfaces may be required.

Remarks

- A standard **desktop** PC is regarded too vulnerable for routine mobile use. Possibly, the laptop may be fitted with an external keyboard and a CRT display for ease of use.
- Presently, TFT desktop displays come available. Such displays could replace standard CRT displays. Advantages are smaller size, less weight, more rugged and in many cases operation from DC power. Main disadvantage is the high cost, which is expected to decrease over time.
- There is no need to comply exactly with the listed specifications, minor adaptations as required to adjust to specific conditions and/or applications may be allowed for.
- It is recommended to use a laptop PC, because this has a rugged design, requires less power and, with the use of an adapter, it can be operated from a car battery.

Specifications

CPU type	Pentium MMX, 166 MHz
internal memory	32 Mbytes SDRAM
cache memory	512 Kbytes L2 pipeline burst cache

hard disk	2 Gbytes UATA HDU
PC card slots	2 Type II slots or 1 Type III slot integrated PCI bus 64 bit graphics accelerator PCI bus master EIDE onboard
FDD	1 1.44 MB FDD
parallel port	1 EPP / ECP, bi-directional
serial port	2 fast serial ports 1 PS/2 port 1 USB (Universal Serial Bus) port 1 IrDA 1.1 compatible
video port	output for external CRT display
video memory	≥2 Mb
pointing device	touch pad
keyboard	standard laptop layout
display technology	TFT
brightness	good readability in daylight conditions
resolution	800 x 600
battery type	Lithium-ion, rechargeable
battery autonomy	≥2 hours
power management	APM support
mass	<4 kg including power adapter
power supply	220 VAC ±25%; 47 to 53 Hz
car battery adapter	10 to 15 VDC, of sufficient power capacity to reliably meet the power requirements of the laptop PC during field use.
operating temperature	10 to 50°C
humidity	10 to 90 %

Components to be supplied along side

- external mouse, MS supported, preferably a bus-mouse; mouse pad
- carrying case adequate to protect the laptop PC during field trips by jeep.

Operating system and software

(operating system and software to be of the latest release)

- MS-Windows95 on CD-ROM
- MS-Office97 professional, including WORD, EXCEL, ACCESS, PowerPoint

Virus protection software

The virus protection software (McAfee, Norton or Dr. Solomon) should be compatible with the operating system and including a site licence with up-grade provision.

Manuals

Technical manuals of all hardware, including PC and peripherals, shall be part of the delivery. Also all software manuals of the installation software, operating system, utilities and applications software shall be included in the delivery.

Optional

- V42, V.34 (1996) 33.6 kbps modem and cable with connector(s) to telephone line
- CD R/ROM, 20X speed, either internal or external
- 16 bit LAN card (UTP), only if the laptop PC is to be used in a LAN. The LAN can be used to convey the collected data from the laptop PC to an office (desktop) PC

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