

Terraloc Mk 8



- A powerful yet portable seismograph, Windows XP for both the field and the office
- USB 2.0 ports for memory stick or memory card
- ABEM SeisTW, software for data acquisition
- Ideal for all types of applications
- Your faithful companion wherever your job takes you

ABEM

Powerful yet portable – all you need in one case

Terraloc is a compact, and complete seismograph with all you need to collect your seismic data in a single casing. Just add geophones, cable and power.

To allow for your most stringent environmental demands Terraloc is housed in a rugged die-cast Aluminum casing to ensure highest performance and reliability wherever you go. Rain, heat, dust, sleet or snow? Not to worry - Your Terraloc can be operated anywhere, anytime.

To further protect the instrument there are as few openings as ever possible. Instead of incorporating a power thirsty and sensitive hardcopy printer in the design, which would have induced another hole in the casing, the built-in PC with its associated daylight visible screen let you inspect your data as you go.

All this, without exposing the interior of the instrument to environmental hazards through printer or breathing openings. Store the data on the built-in hard disk for later printing or data transfer. However, should you need a hardcopy of your record in the field, just connect a standard battery operated printer, whenever you need.

Key Features

Key features of Terraloc are not only reliability and field worthiness but also to offer you a powerful seismograph that has advantages as:

- Wide range of sampling rates, from 25 μ s to 2 ms. Fast enough for crosshole surveys
- Record lengths ranging from 3.2 ms to 32.7 seconds. Long enough for Moho studies
- On-site geophone and cable testing. Enhances in the field QC
- Real time noise monitoring. Measure at optimum conditions
- Wide choice of multi- or single- trace view modes. Fast and detailed analysis
- Frequency spectrum analysis. Allows you to check where your filters should be set.
- Refractor velocity indication. Quick check of target velocities found
- and much more. Check the spec's on the last page for more details

Field operations may not allow you to post-process your data in the office. The onboard powerful PC running Windows XP will let you run interpretation software on-site.

Let us know what you plan to do and we can suggest a software that will help you reach your goal. ABEM has agreements with several well renowned suppliers of software for interpretation of geophysical data.



With its only opening securely closed the Terraloc meet protection standard IP 66 under operation. After a day in the field filled with grit and dirt, hose down your Terraloc before you bring it into your car or office and you are immediately ready for post processing or printing.



Check out the layout of the panel – Designed for use in the field Terraloc Mk 8 will let you control the field operation with just a few keystrokes. For more advanced data management connect an external keyboard and a mouse to gain full access to Windows XP.



The back of the panel has a full set of connectors conveniently located. The connectors are water proofed and sealed, and are further protected by the dust covers when not in use.



With the built in memory card reader you can backup or copy your measurement data for further processing using your computer at the office for example. Memory cards like SD, Compact flash and Memory stick Pro Duo fits under the protective cover in field use, the card reader also hosts one of the three USB 2.0 connectors supplied on the Terraloc Mk8.

Your faithful companion wherever your job takes you

Seismics is a powerful tool whenever you aim to investigate the mechanical properties of the ground. The use of seismics ranges from micro-seismics investigating the integrity of concrete constructions to measuring the properties and thickness of the earth's crust. Terraloc is designed to envelope the full range with a focus in the sector of near surface geophysics.

The near surface geophysics (NSG), which covers the uppermost layers, may be considered shallow with the deep investigations kept in mind. However, what also should be kept in mind is that NSG investigations most often demand more of the equipment. A Terraloc must be ready to operate wherever its operator wants to go.

Utilizes all types of sensors and energy sources

Terraloc accepts input from all types of seismic sensors. Pick the geophone frequency that your project requires and Terraloc will not only connect to it, it will on your demand produce a geophone test that you store in a record for your report. If you are working in boreholes or the wet zone, shallow or deep, you may need to use pressure sensitive sensors as transducers. Terraloc will take these on too!

A variety of energy sources are used for today's seismic work. Terraloc accepts a wide range of triggers, analogue, i.e. from a regular geophone or ABEM's trigger coil, contact closure or opening and Transistor to Transistor Logic. The TTL is a handy feature if you use a vibrator. Most of the marine energy sources as sparkers and boomers also require a TTL coupling.

Crosshole tomography

We also supply down the hole sensors and energy sources for borehole applications. Contact your nearest ABEM distributor for more information.

Software

Data acquisition is made using SeisTW, an ABEM developed software running under Windows XP

A wide variety of interpretation software for seismic data is available through ABEM for processing the measured data.

In the office

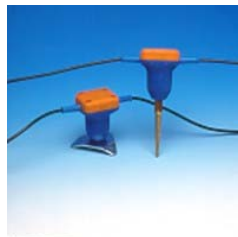
The built in computer makes it possible to connect the instrument to other PC's or a network through the ethernet port. This facilitates the transfer of data stored on the internal harddisk as well as giving access to other PC peripherals as printers.

The three USB 2.0 ports can be used to connect various computer accessories such as keyboard, mouse, printer CD/DVD-drive etc. The built in memory card reader can be used for backup and transfer of measurement files as well as general handling of files like on a normal PC.

You can even connect an external display like an ordinary VGA compatible computer monitor or a projector directly to the Terraloc if needed.



A Terraloc must be ready to operate wherever its operator wants to go



Geophones and hydrophones, Terraloc accepts input from all types of seismic sensors



Terraloc accepts a wide range of trigger signals which allows the usage of a variety of energy sources.

Technical Specification **ABEM Terraloc Mk 8**

General

Number of channels (smaller unit)	4-24 in steps of 4
Number of channels (larger unit)	4-48 in steps of 4
Additional channels	Easily obtained by linking two or more units together
Up-hole channel	Yes
Sampling rate (selectable)	25, 50, 100, 200, 500, 1000 & 2000 μ s
Record length (selectable)	128, 256, 512, 1024, 2048, 4096, 8192 or 16384 samples per trace equivalent to: 3,2 ms – 32,7 s
Pre-trig record (selectable)	0 – 100 % of record length
Pre-stack correlation	Yes, cross correlation with reference or any other channel
Delay time	Related to sampling rate May be set (for example) from: 0 – 0,8 s at 25 μ s sampling rate 0 – 131 s at 2ms sampling rate
Stacking	32 bits, up to 999 impacts
Unstack	Remove last shot from stack
Trigger inputs	Trigger coil, make/brake, geophone, TTL
A/D converter resolution	21 bits
Dynamic range (theoretical / measured)	126 / 114 dB
Max input signal	500 mV p-p
Frequency range	1-4000 Hz (at 25 μ s sampling rate)
Total harmonic distortion	- 80 dB
Crosstalk	- 86 dB
Input impedance	3 k Ω
Noise monitor	Amplitude
Analog filters	
- Low cut (selectable)	12 or 24 dB / octave 16 steps from 12 to 240 Hz
- Notch	50 or 60 Hz specify when ordering
- Anti-aliasing	set automatically based on sampling rate

Post recording features

Digital filters	Band-pass, low-pass, high-pass, band-reject & remove DC offset
Spectrum analysis	Any single trace, FFT analysis
Velocity Analysis	On-screen analysis of refractor velocity
First-arrivals picking	Automatic or manual
Correlation	Times can be saved with record cross correlation

Processor, RAM and hard disk

Processor	Low power AMD LX800, 500 MHz
Operative System	Windows XP
Internal RAM	1GB (DDR SO-DIMM module)
Hard disk capacity	at least 60 GB (2,5 " EIDE drive)
Memory card reader	SD, Compact flash, MMC, Memory stick, Smart media etc.
Display	8,4 " Active TFT LCD, full colour, daylight visible
External display port	VGA output
I / O port	3 USB 2.0 ports

Network interface	Ethernet 10 / 100 Mbps, RJ-45 IP 67
Power	10 – 30 V DC external battery

Power consumption	36 W (24 ch) or 60 W (48 ch)
Ambient temp (operating 24 ch)	0 to + 50 °C
Ambient temp (operating 48 ch)	0 to + 45 °C
Ambient temp (storage)	- 40 to + 80 °C
Casing	Rugged cast aluminium, meets IEC IP 66
Weight, 24 channels	16 kg
Weight, 48 channels	23 kg
Dimensions, 24 ch unit	480x260x330 mm
Dimensions, 48 ch unit	480x260x470 mm

To order, please specify

MARK 8, 12 CHANNEL SYSTEM	33 5000 12
MARK 8, 24 CHANNEL SYSTEM	33 5000 24
MARK 8, 48 CHANNEL SYSTEM	33 5000 48

Each system includes:

Terraloc Mk8 instrument of chosen type
Reference manual
Trigger cable 250 m on reel, Trigger coil, Accessories & Tools kit
Windows XP compatible USB keyboard and mouse
Program and sample records.

Field Accessories (ordered separate)

Seismic cable 24 take-outs at 5 m	36 0001 96
Extension cable 160 m (56 conductors)	36 0001 97
Seismic cable 12 take-outs at 12.5 m (other cable configurations also available)	36 0001 26
Extension cable, 60 m (26 conductors)	36 0001 27
Extension cable, 160 m (26 conductors)	36 0001 28
Portable reel	38 3001 52
10 Hz vertical geophone	39 1000 62
10 Hz horizontal geophone	39 1000 93
4.5 Hz vertical geophone	39 1000 63
4.5 Hz horizontal geophone	39 1000 64
4.5 Hz 3-D geophone	39 1000 85
100 Hz vertical geophone (land)	39 1000 77
100 Hz vertical geophone (marsh)	39 1000 78
Shock plate	33 0010 18
Hi-voltage CB 20 VA shotbox	39 9000 23
Backpack carrying frame	33 0001 98
Extra spares kit for remote locations	33 0011 88

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