



The ACEBOX is an high performance accelerograph with embedded three Force Balance Accelerometers; it records the seismic signal at high resolution in standard USB flash pen drives.

Several Internet services are provided like FTP Client/Server functions, and seismic protocol like **SeedLink** for real time data transmission to the most popular recording software like Earthworm, Seislog, SeiscompP, etc.; all this thanks to our proprietary **SEISMONUX software**, flexible and ease to use.

## ACEBOX

A compact and reliable accelerograph. The robust case, milled out from solid block of aluminum, can resist to high loads in case building collapse and then protect the data memory. The embedded battery allows correct shutdown in any condition and provides extreme resistance to sudden power failures.

The three channels with sampling rates from 1 to 1500 Hz allow a variety of applications. The high dynamic range make possible to use Acebox as a seismometer.

The **ULTRA FAST SeedLink server** allow the lowest latency possible for EEW application down to 0.1 of seconds !

## Connectivity

Many protocols are provided: TCP, UDP, HTTP, FTP, SSH, Telnet, MODBUS, and more. The unit can be accessed by console port as terminal emulator both by Ethernet and RS232; this allow fully operativity with any data carrier PSTN, GSM, GPRS, SAT, WAN, LAN, etc. Virtual Private Networking (VPN) also guarantee to reach the instrument even behind firewalls and NAT filters.

## Energy

The low power consumption allow the ACEBOX to be used in remote installation and powered with small accumulators and solar panels.

## Synchronization

ACEBOX it is synchronised by GPS for the UTC time. Additionally NTP client (Network Time Protocol) is provided allowing synchronization regardless of the availability of GPS signal.

## Modularity

In our design we always follow a modular approach allowing the instruments to be easily repaired and upgraded. This also increase the durability of the product safeguarding your investment and the environment.

## Development

Hundreds of geophysicists, civil engineers and seismologists are among our clients and we always listen to their comments and needs in order to constantly improve the instrument and develop new firmware versions.

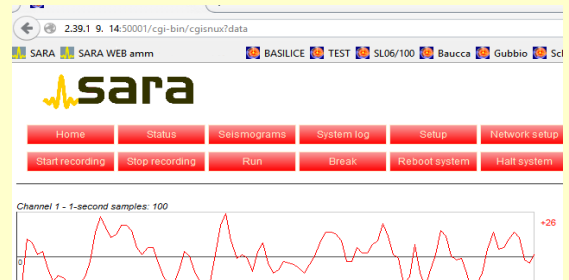
## Applications

ACEBOX is excellent for temporary networks, local networks, structure health monitoring network, dam monitor, sensors arrays, aftershocks studies.

With a series of automatic recording algorithms it can work in network with other SL06 instruments in order to avoid false triggers or don't miss any small signal. A number of automations are available, allowing the automatic send to a data server of all the recorded files to be analysed with modules of SEISMONUX software suite like the DESK (for seismology) or ESCAP module (for engineering).

Thanks to the WEB based management system you can control the SL06 in a very simple and easy manner.

Customization on the unit are possible, on both hardware and software side.



## Some technical feature

Power: 10-36V, power consumption: 3.2W @ 13.8V with GPS on, ethernet and writing  
 Number of channel: 3 channels 24 bit ( $\Sigma\Delta$ ) 144dB with antialias  
 Sensitivity: 238 nanog/count with +/-2g full scale sensors  
 Sampling rates: 1, 10, 20, 50, 100, 200, 250, 300, 400, 480, 500, 600,800, 1000, 1500 Hz  
 Real Time Clock: GPS disciplined clock +/- 10ppm -20/+70°C (+/- 40 $\mu$ s to the respect of UTC)  
 GPS Antenna: external with coaxial cable of 10 meters and BNC connector  
 GPS features: < 1 $\mu$ s accuracy, providing Coordinates, Elevation, Status  
 Mass Memory: USB pen-drives, with EXT2 file system up to 8 Terabytes  
 Data Format: GSEcm6, GSEint, SAC, SAF, miniSEED, SEG2  
 Data Links: Ethernet 10-100 and RS232  
 Recording/Triggering: continuous, events based (STA/LTA, amplitude, IP voting), scheduled  
 Housing: aluminum IP68, coated against corrosion and powder painted Ra13000  
 Dimension: 205x170x107 mm Weight about 5kg  
 Operating temperat.: -20/+70°C  
 Anchoring: with keyhole in bottomside and three levelling feet  
 Control Panel: with 2x16 LCD and three keys to monitor the unit and setup

## Sensor

Accelerometer: Triaxial Pure Force Balance Design with fixed (+/-2g standard) or programmable ranges from +/- 4, 2, 1, 0.5g (with orthogonal sensors Z,Y,X) without need to lock/unlock inertial masses  
 Dynamic range: Sensor cell >165dB, system >140dB  
 Bandwidth: DC-100 (standard); DC-200Hz (optional)  
 Cross axis sensit.: < 0.1%  
 Linearity: < 0.02% of full scale  
 Noise floor: < 20 ng/ $\sqrt$ Hz  
 Test sensor signal: test pulse applied in feedback loop  
 Offset compensation: by software, various option available from web control panel

More information are available submitting your inquiry at: [info@sara.pg.it](mailto:info@sara.pg.it)

*Important notice! This paper is an information leaflet only!; it is published without programmed updates; with the purpose of improve the product all specifications are subjected to change without any prior notice and except error and omissions. When the product is offered in bid document or commercial offer, if differences exist between this document and the commercial or bid offer document, the bid document prevails.*