



X824S

24 bit Integrated monitor

Touch screen display Integrated battery

Wireless New

Seismograph 24 / 96 channels - 24 bit

Top-range seismograph equipped with 24-48-72-96 embedded channels for active and passive seismic surveys. X824S basic configuration integrates 24 channels and can be expanded with 24 channels modules, without external boxes, up to maximum 96 integrated channels. Instrument has a PC with 10" monitor and operative system Windows 10. Management of all settings, acquisition parameters, recording and visualization of recorded data, are performed sequentially and in an intuitive manner by means of the operative system installed on the instrument, which includes also a guide with step by step instructions for the realization of the most common surveys. High flexibility together with high dynamic range make X824S the ideal solution for every kind of active and passive seismic survey: surface seismic investigations such as Refraction, Reflection (P and S waves), M.A.S.W. , Re.Mi. , E.S.A.C., bore-hole surveys such as Down Hole and Cross Hole, stand-alone passive station H.V.S.R. and vibrational monitoring. With particular regards to seismic methodologies, 24 channels module allows the use of a single cable with 24 takeouts that, together with integrated battery pack, reduces the number of accessories to bring on site.

Methodologies

Refraction Seismic

Reflection Seismic

M.A.S.W.

Seismic Down-Hole/Cross-Hole

Seismic vibration monitoring

Nakamura Method, HVSR, H/V

Re.Mi / ESAC

Seismic Tomography

M.A.A.M.

General

Measurement type Activate triggered and passive acquisition

General

Sampling frequency	from 250Hz to 48kHz
Number of channels	24 - 48 - 72 - 96 (+1 trigger channel)
OS and technology	CPU based on Windows OS
RAM	8 GB
SSD and memory	> 100 GB
Display	10" touch panel with 800 lumen
Physical interface	2x USB with Ethernet capability
Wi-Fi interface	Integrated antenna
GPS	Integrated antenna
Power supply	Internal li-ion battery / external 12V battery
Autonomy	> 7h with external battery
Operating environmental condition	-20 °C / 80 °C
Protecting rating	IP67 (closed)
Weight	6kg
Dimensions	50x40x20

System

Sampling frequency	251 Hz, 502 Hz, 1008 Hz, 1996 Hz, 3762 Hz, 7520 Hz, 9975 Hz, 12 kHz, 14 kHz, 19.5 kHz, 24.5 kHz, 48.7 kHz
Sampling interval	4ms, 2ms, 1ms, 0.5ms, 0.27ms, 0.13ms, 0.10ms, 0.08ms, 0.07ms, 0.05ms, 0.04ms, 0.03ms, 0.02ms
Samples per active shot	Up to 29127 samples per channel
Samples pre-trigger shot	Up to 6255 samples per channel
Trigger type	Differential input, allchannel can be selected as trigger. Trigger sensitivity user selectable

General

Trigger channel acquisition	User selectable
-----------------------------	-----------------

Gain amplification	User selectable: 0 to 52 dB
--------------------	-----------------------------

Export format	.seg2, .csv
---------------	-------------

Acquisition

ADC technology	24 bit Delta Sigma
----------------	--------------------

Dynamical range	144 dB (dynamic); 109 dB (at 1ms sampling)
-----------------	--

Input signal	+/- 2.5 V (at gain: 0 dB); +/- 20 mV (at gain: 42 dB)
--------------	---

Input impedance	> 10MΩ
-----------------	--------

Bandwidth	DC to half of the selected sampling frequency (max DC to 24kHz)
-----------	---

Total harmonic distortion (THD)	< 0.0005%
---------------------------------	-----------

Common mode rejection ratio (CMRR)	110 dB dB (at 50Hz and 60Hz)
------------------------------------	------------------------------

Crosstalk	- 119 dB
-----------	----------

Anti-aliasing filter	-3 dB at 80% of Nyquist selected frequency, -80 dB
----------------------	--

Noise floor	< 1nVrms
-------------	----------

Extra functionality

Noise analysis	All channels displayed simultaneously
----------------	---------------------------------------

Spectral analysis	Both during noise analysis and after acquisition
-------------------	--

Digital filter	Low pass, High pass, band pass during active acquisition
----------------	--

Inline test	Geophone testing for good connection
-------------	--------------------------------------

Gain setting	All channel can be individually configured
--------------	--

Stacking	Unlimited stacking with advanced math for each stack trace
----------	--

General

