SV1

Seismic / Human Response Vibration & Sound Analyzer

www.svdigital.com

Registered
ISO 9001:2008 / ISO 14001:2004

SV CORPORATION

Seismic / Human Response Vibration & Sound Analyzer

SV1

Features

- Seismic / Human Response Vibration & Noise Measurement
- Vibration Measurement by JIS C 1510(dBV)
- Vibration Measurement by DIN4150
- Simultaneously 3-Axis Vibration Level & Sound Level Display
- Simultaneously Multi-Processing & Display
- Vibration & Sound measurement by Trigger Level of Vibration Level
- Internet or LTE Communication with PC Software
- 7" LCD Touch Screen
- Long term Data storage (4GB SD Memory card)
- Report and Post Processing & Analysis(Trace & FFT) Software on PC
- Check the Saved Result Data and Measurement Setup by SV1 on PC
- Measured data to convert to Trace, Octave, FFT graph on PC

Applications

- Seismic Monitoring
- Mining Monitoring
- Ground Vibration Monitoring
- Pile Driving
- Construction Field
- Bridge Monitoring
- Factory Floor Vibration Monitoring
- Power Plant Monitoring
- Building Vibration Monitoring

SV1 is based on Smart phone technology with versatile application software to measure the Seismic/Human Response Vibration & Sound monitoring and analysis on the portable rugged system.

Main Specifications

Operating system	WinCE 5.0(Device), Windows7 and higher (32bit, 64bit)(PC)	USB Interface	1 Host, 1 Device
CPU	PXA320 (806MHz)	Power	5V, 3A
LCD	7" TFT-LCD +TSP	International protection	IP64
Flash memory	NAND 128MB	Dimension	350(W) x 290(D) x 150(H) mm
System memory	DDR SDRAM 128MB	Weight	4.0 Kg (without accessories)
External memory slot	SD/MMC Slot	Operating temperature	-20℃ ~ 50℃ (-4℉ ~ 122℉)
Communication	Serial, Wireless(WiFi), Internet, LTE	Humidity	5% ~ 95% Non-condensing

Data Acquisition Unit Specifications

A/D Converter	24bit
Input Channel	4channel(3ch for Vibration and 1ch for Sound)
Sensor Type	IEPE
Sampling Frequency	Vibration : 1024 Hz for each channel / Sound : 16384Hz
Input Range	±5V(peak)
Measuring Range	Sound : 30 dB up to 140 dB
	Vibration : 37 dB up to 156 dB
Frequency Range	Vibration : 0.5 ~ 200Hz(3dB) (option 500Hz(3dB)) / Sound : 20 ~ 8000 Hz(3dB)
Accuracy	+/- 3%
Linear Accuracy	+/- 0.1 dB/30Hz
Trigger Range	0.127 to 250 mm/s
Record Time	1 to 10 Sec, up to 30 minutes
Signal to Noise Ratio	>= 120dB

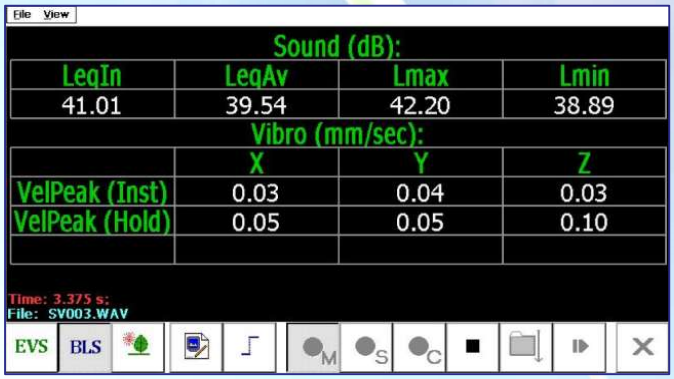
Seismic Vibration & Sound Measurement

[Vibration]

- Provide the influence evaluation data nearby Structure : 3axis peak and PVS(mm/sec)
- Vibration Measuring Range : 250 mm/sec
- Frequency Range : 0.5 ~ 200Hz for each channel(option 500Hz)
- Vibration Accuracy : Less than 1%
- Vibration Resolution: 0.01 mm/sec
- Vibration Measuring Sample Rate: 1024 samples/sec
- Storage Sample Rate: 1024 samples/sec

[Sound]

- Sound Measuring Range: 35 ~ 140 dB
- Frequency Weighting Filter : A and L
- Frequency Range : 20 Hz ~ 8000 Hz
- Sound Accuracy : IEC 60651 Type2
- Sound Data : Simultaneously Lmax, Lmin, LeqLn, LeqAv



Seismic Measurement BLS mode

[Common]

- Trigger Level : Set up from 0.1mm/sec to 250 mm/sec
- Measuring Mode : Selectable Manual, Single, Continuous mode (Up to 250 Events)
- Selectable Measurement Time : 1sec, 2sec, 3sec, 5sec, 10sec, 1min, 5min, 30min, 1hr, 1day, User definable time
- Data Storage Capacity: SD Memory Card 4G (Continuously 60 days for the measurement data including Graph)
- Measurement cycle time: no dead time

Human Response Vibration & Sound Measurement

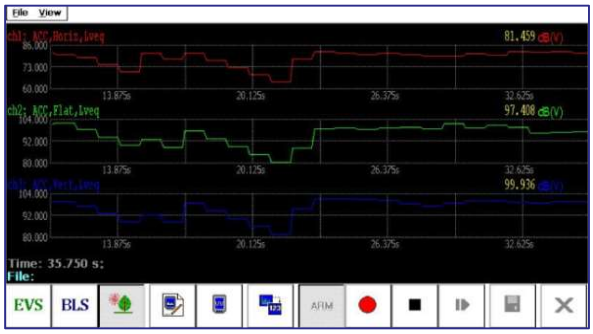
- Measurement Results : Instantaneous Sound Leq, Lmax, Lmin, Statistic Vibration Level L5, L10, L50, L90, L95
- Vibration Frequency Range : 0.5 ~ 80 Hz (up to 500Hz)
- Vibration Measuring Range : 37 up to 156 dB
- Sound Measuring Range : 30 up to 140 dB
- Weighting Filter : A and L
- Sound Frequency Range : 20 Hz ~ 8000 Hz
- Dynamic Range : more than 120 dB
- Selectable Measuring Time :1sec, 2sec, 3sec, 5sec, 10sec, 1min, 5min, 30min, 1hr, 8hr, 1day, User definable set up

Human Response Measurement EVS mode

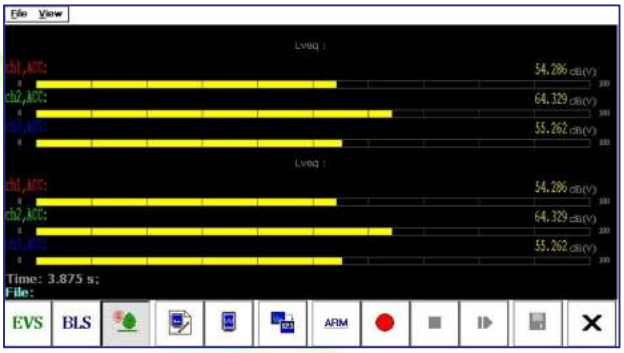
- Vibration Trigger Level : set up with 1 dB step from 45dB (to measure the wanted Vibration And Sound Level)
- Measuring Mode : Selectable Manual, Single, Continuous mode up to 250 events
- Data Storage Capacity : SD Memory Card 4GB (Continuously 60days for the measurement data including Graph)

Remote Auto Measurement

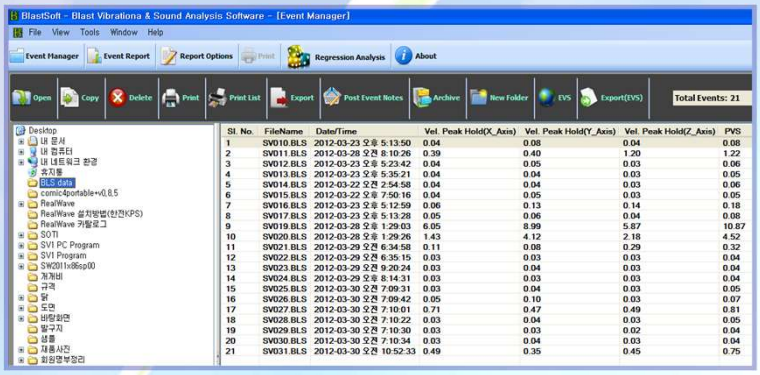
- Communication Type : Internet or LTE
- Remote Data Transmit and Receiving time Control (To Control interval time with Hour, Min, Sec Unit)
- Remote Auto Control up to Max 100 measuring equipments
- Remote Control Trigger Level and Measurement time
- Possible to measure during receiving the measured data
- No need Reset the Equipment by the receiving error (Simultaneously the Measurement and Communication mode)



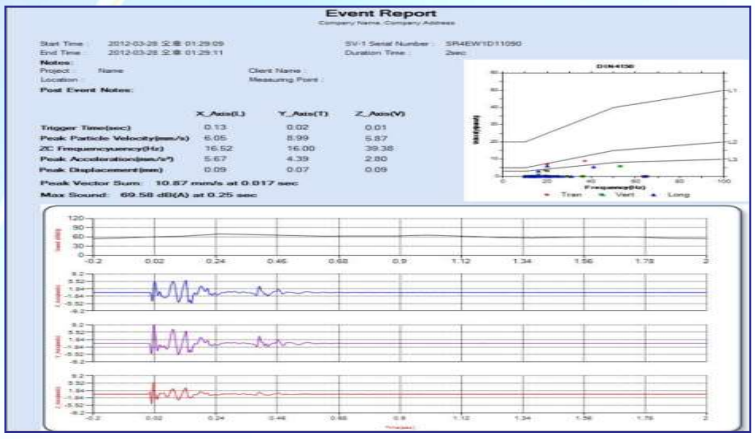
Human Response Vibration mode by JIS C 1510



3-axis Human Response Vibration mode by JIS C 1510



Event Lists on PC



Time Data, Result data and DIN 4150

Analysis & Report Software

- Powerful PC Software

- The user can store the measured data in SD card to do the post processing, analysis and report PC.
- The user can get the report by JIS C1510 and DIN 4150 with this post processing software.
- Software along with manual for use in window system and analysis.
- Time history graph of displacement, acceleration & particle velocity.
- Frequency Vs Energy graph and also in numerical form of above waveform.
- Peak value of displacement, acceleration and particle velocity, frequency and energy release with corresponding time and release.
- F.F.T analysis. The software should have the provision for giving raw data in ASCII and/or standard data base format for use in the third party software.
- Optional Post-processing software(DatsliteNVE) (attached) : ASD(Auto Power Spectral Density), FFT, Trends(Acceleration, Velocity, Displacement), Digital filtering and so on

Company Specialized in Sound/Vibration

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