

# Portable Ambient Vibration Monitoring System

## SPC-52/VSE-15D6

**TOKYO SOKUSHIN CO., LTD.**

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URL <http://www.to-soku.co.jp>

This system works well on moving observation with the field-portable vibration meter built-in Windows® PC. Measurement of high precision is available from the system configuration (max. 9 components) with the high resolution servo velocity meter.

Building Vacillation / Health Monitoring

Microtremor Monitoring / Vibration Test Monitoring

Moving observation / Aftershock Monitoring

Ambient Vibration / Environmental Pollution



SPC-52

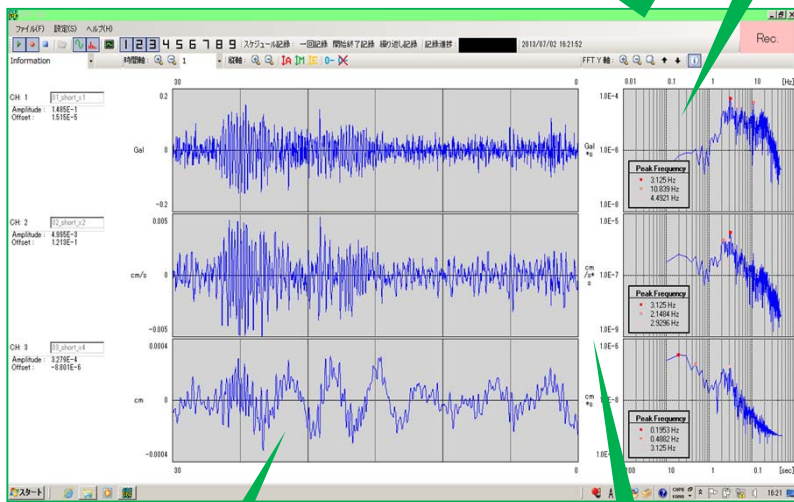
Equivalent of 24bit converter  
Sampling: 1Hz - 1000Hz  
Built-in amplifier: x1 - x64  
GPS clock synchronization

Measurement range: 1cm/s(0.1-70Hz)



VSE-15D6

Value H/V switching module



FFT spectrum

Making choice of each channel  
"Acc.", "Vel.", "Displacement"

Real Time Display(Any of 9 channels)

GPSAntenna

SPC-52

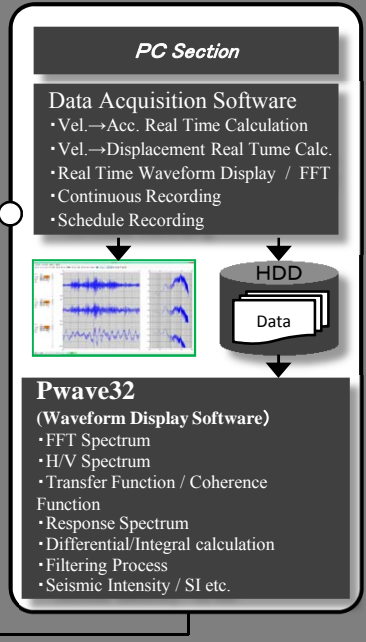
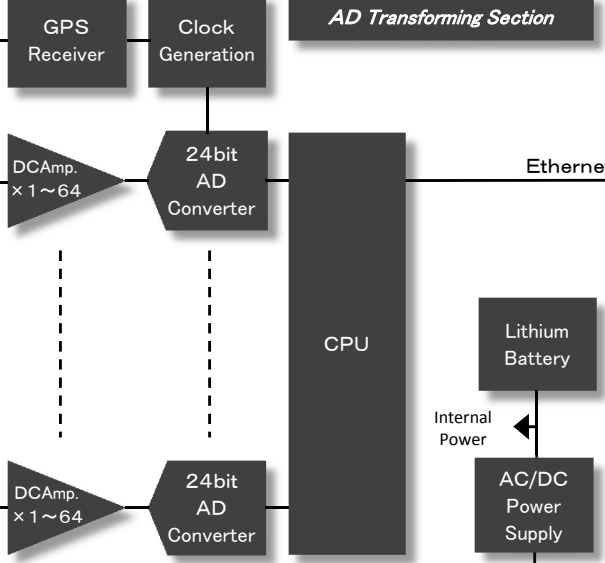
AD Transforming Section

PC Section

Max. 9 comp.

VSE-15D6

VSE-15D6



AC Power Supply

## Specifications

### SPC-52

#### AD Transforming Section

Shape	Plastic Trunk case		
Input CH	9 Channels (VSE-15D6 X 9 components)		
Input Range	±10V (Equivalent of ±10cm/sec), Single-ended input		
Built-in Amplifier	x1, x2, x4, x8, x16, x32, x64		
AD Converter	Format	Equivalent to ΔΣ 24bit (32bit form)	
	Resolution (typ)	128dB (100Hz sampling, measured by X1 amplifier)	
	Sampling Frequency	100, 200, 250, 400, 500, 800, 1000Hz	
Filtering	Cutoff Frequency (-3dB)	Sampling Frequency X 0.413	
	Characteristic	Selection of Minimum Phase Response / Linear Phase Response	
Internal Clock	Clock	year, month, day, time, minute, second (automatic calendar)	
	Calibration	GPS Synchro System (Less than ±100μ sec.)	
Interface	Ethernet		
Power Supply Section	Power Supply	AC100V to 240V (±15%)	
	Consumption Current	Approx. 20VA (VSE-15D6 X 3 components connection) to Approx. 23VA (9 components), Providing AC100V, Recharging, Not incl. on-board PC	
	Built-in Battery	Type	Lithium-ion Battery
		Operating Time	Approx. 7 hours (VSE-15D6 X 3 components connection) to Approx. 5 hours (9 components connection)
Operating Temperature Limit	-10°C to +40°C, without on-board PC		
Dimension	424mm(W) X 332mm(D) X 111mm(H), without projection		
Weight	Approx. 5.3kg, without on-board PC		

#### PC Section

On-board PC	Size	12.1 panoramic screen notebook PC, windows® 8 Pro 64bit
Acquisition Software	Number of channels	Maximum 9 channels (Choose Acc./Vel./Disp. of each channel)
	Input Range	Maximum ±10cm/s
	Acceleration Computing Range	Maximum ±1256Gal (Provisional value)
	Displacement Computing Range	Maximum 31.8cm (Provisional value)
	Real Time Waveform Display	Waveform and FFT of Maximum 9 channels
	Recording Format	Tokyo Sokushin original Pwave format (int. type, singled integer type 32bit)
	Recording Mode	Scheduled recording, Manual recording
	Maximum Recording Time	24 hours (@100Hz sampling)

VSE-15D6 (It is possible to download the simple body catalog of VSE-15D6 from our website.)

Measurement Frequency Range	0.1Hz to 70Hz
Direction of Measurement	Switchable Horizontal/Vertical
Measurement Range	±10cm/s (±0.1m/s)
Sensitivity	±10cm/s (output Low), ±1cm/s (output High), *Using output of Low based on SPC-52 System configuration.
Linearity	0.03% (@ Measurement range)
Resolution	Less than $2 \times 10^{-4}$ Gal
Dynamic Range	More than 140dB
Lateral Sensitivity	Less than 0.03G/G
Operating Temperature Limit	-10°C to 50°C
Dimension	55mm (W) X 69.5mm (D) X 72mm (H)
Weight	Approx. 350g

#### Accessories (Fitting in combined sale of SPC-52 and VSE-15D6 × 3 components)

AC power cable (2.0m) X 1, GPS antenna for car use, SPC-52 setup disc X 1

Mounting base for 3 components Velocity meter (BS-3), Case for 3 components Velocity meter (CS-3A), Connecting cable for Velocity meter (2.0m)

#### Option

Extension cable for Velocity meter and Cable reel (each Max. 100m)

#### Example of observation

**Vibration measurement for**

VSE-15D6  
(Horizontal 2 + Vertical 1 measurement)

Code reel (Option)  
Possible to extend max.

SPC-52

**Array Survey**

VSE-15D6 (Vertical)

GPS Antenna

Max. 100m

SPC-52

\*Possible to measure clock synchronized observation of plural SPC-52 by GPS synchronization.

Information in this document is subject to change without notice.



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