

Portable Ambient Vibration Monitoring System

SPC-52/VSE-15D6

TOKYO SOKUSHIN CO., LTD.

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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

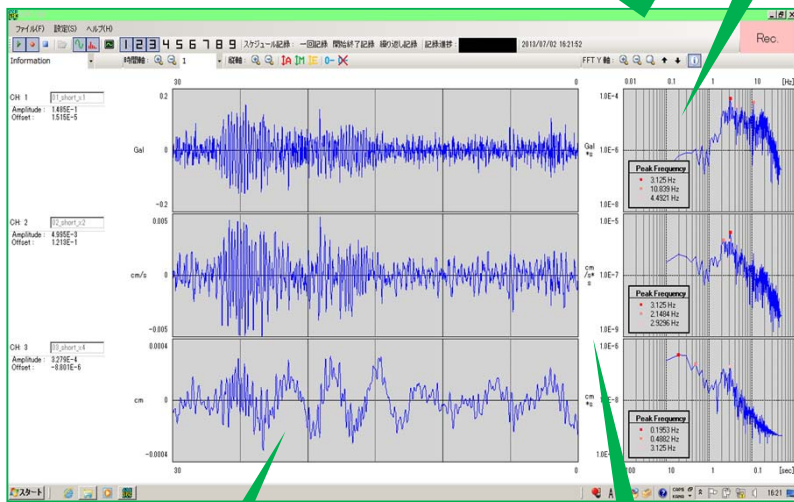


Equivalent of 24bit converter
Sampling: 1Hz - 1000Hz
Built-in amplifier: x1 - x64
GPS clock synchronization

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



Value H/V switching module



FFT spectrum

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

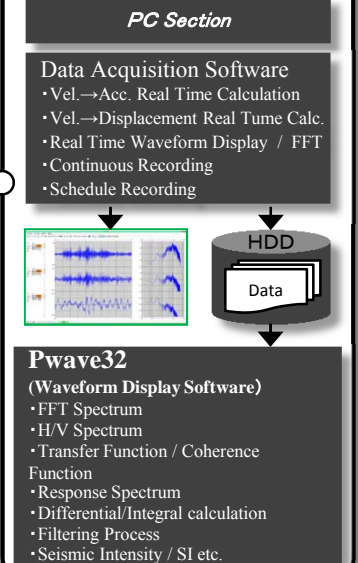
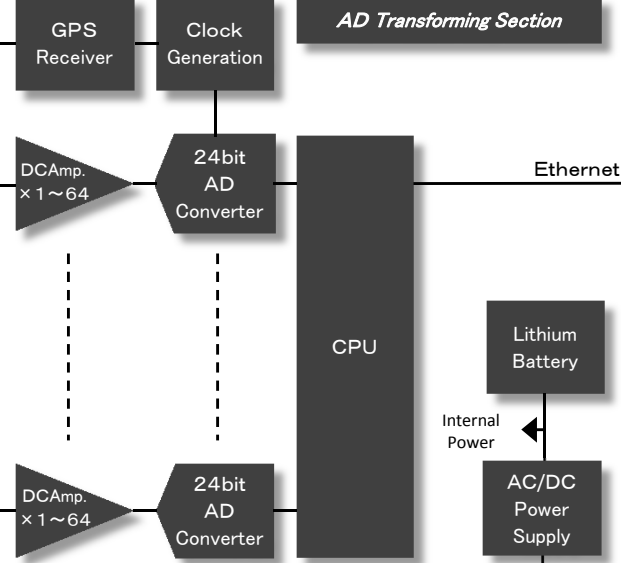
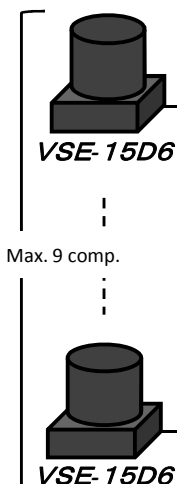
Real Time Display(Any of 9 channels)

GPSAntenna

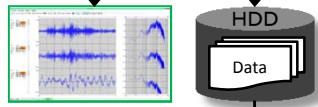
SPC-52

AD Transforming Section

PC Section



- Data Acquisition Software
- Vel.→Acc. Real Time Calculation
 - Vel.→Displacement Real Time Calc.
 - Real Time Waveform Display / FFT
 - Continuous Recording
 - Schedule Recording



- Pwave32 (Waveform Display Software)
- FFT Spectrum
 - H/V Spectrum
 - Transfer Function / Coherence Function
 - Response Spectrum
 - Differential/Integral calculation
 - Filtering Process
 - Seismic Intensity / SI etc.

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 | 10BASE-T/100BASE-T (Sharing communication with on-board PC) |
| 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 2×10^{-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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