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## The latest model of Pile Integrity Tester (PIT-X)

October, 2015



The Low Strain Dynamic Pile Integrity Test has been used for a long time as a method to test the integrity and length of foundation piles.

Pile Dynamics, Inc. first developed the Pile Integrity Tester (PIT) in 1991 and has since built a significant track record with what is now known as the Pulse Echo Test.

This testing method is now standardized for Low Strain Dynamic Pile Integrity Testing in ASTM D5882.

The test is conducted by placing an accelerometer near the pile head and lightly striking the pile head with a hand hammer.

The accelerometer sends the acquired data to the main unit of the PIT, allowing for the confirmation of measurement waveforms on-site.

Additionally, after on-site measurements, it is possible to bring the data back for further detailed analysis.

This year, Pile Dynamics Inc. (PDI) has successfully developed the latest model of their Integrity Tester, the PIT-X. It is small enough to fit in the palm of your hand and utilizes a wireless accelerometer. There is no cable between the accelerometer and the main unit. All the functions from the previous model, PIT-V, have been inherited, including the high-speed Fourier transform function, which is particularly useful for detecting the length of relatively short piles.

Furthermore, PDI has updated their software, **PIT-W**, for post-processing and data analysis of the data acquired from the pile integrity tester.

PDI has been manufacturing testing equipment for deep foundations for over 35 years. They have a significant achievement in spreading the use of Pile Driving Analyzer (PDA) for pile impact load testing to over 90 countries worldwide. As a manufacturer of testing equipment related to quality control and assurance of piles, they are well-known in the industry.

PDI's headquarters are located in Cleveland, Ohio, USA, and they have agents around the world.

For more detailed information, please visit [www.pile.com](http://www.pile.com).

PDI's Japan distributor:



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# Pile Integrity Tester PIT-X and PIT-X2 Specification Manual

October, 2015

## Appearance:

- Size: 135 x 104 x 52 mm
- Weight: 0.45 Kg
- Display: Daylight-visible VGA color display
- Resolution: 640 x 840 pixels
- Screen size: 9.4 cm (3.7")
- Operating temperature: 0 - 40°C; Storage temperature: 20 - 65°C
- Power supply: Internal battery (8 hours of use)

## Electronics:

- Microprocessor: PXA270 @ 520 MHz
- Data storage: Built-in 2 GB drive
- Data output: USB port
- A/D converter: 24 bits
- Analog signal response frequency: 31 KHz (-3dB)
- Digital sampling frequency: > 1 MHz (net frequency after DSP > 32 KHz)
- Sampling frequency accuracy: Within 0.09%
- Wireless range: Within 3m
- Sampling rate: Typically 64KHz (up to 128 KHz for short piles or foundation beams)

## Functions:

- Data acquisition with one point (PIT-X) or two points (PIT-X2) accelerometers
- Integration from one point (PIT-X) or two points (PIT-X2) accelerometers to velocity
- Data acquisition with one wireless accelerometer (PIT-X) or two accelerometers with wireless transmitters (PIT-X2)
- Input of test pile numbers and detailed information
- Automatic recording of test date and time
- Signal amplification function
- Measurement or signal reproduction between 8-30 ms
- Signal stacking function
- Signal time-axis amplification function

## Other features:

- Comes with a soft carrying case
- One-year warranty
- Units: Imperial or Metric
- Operation manual included

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