PILETEST

*Take a deeper look*

# Pile Testing Systems

## Advanced, Friendly, Robust

## Products Catalogue

One Stop Testing Equipment Ltd

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One Stop
Testing Equipment Ltd

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# Company Profile

## Innovating Pile Integrity Testing

At **Piletest**, we've been at the forefront of pile integrity testing since 1996.

As market leaders and pioneers in this field, we've set the standards for non-destructive testing (NDT) of deep pile foundations. Our commitment to excellence is unwavering, and we pride ourselves on transparency, accountability, and customer loyalty.

Your success matters to us. We provide free on-the-job training and offer support for project analysis. Whether it's your first project or the next one, we're committed to achieving the highest standards together

We take pride in taking part in writing the ASTM standard for our products
ASTM D6760 – for Crosshole testing
ASTM D5882 – For Low Strain Impact Integrity Testing
ASTM D8232 – For Borehole Inclination testing
ASTM D8381 – For Parallel Seismic testing

**Joram Amir**
Founder of Piletest

### Quality

Our products undergo rigorous testing, including pressure chamber, vibration table, and heat oven assessments. We stand behind our quality with a full three-year warranty (excluding physical damage).

### Easy to Use

Simplicity matters. Our systems are designed for immediate use, often requiring no formal training. Thanks to years of field experience, we've fine-tuned usability to ensure that users can start testing right out of the box.

### Top Performance

We focus solely on developing pile testing systems—not on computers. Our products seamlessly connect to standard devices like PCs, laptops, tablets, and smartphones via USB or Bluetooth. This approach minimizes downtime, keeps you up-to-date, and reduces overall costs.

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# PET Pro USB

## Pile Echo Tester

PET is used to test the integrity of deep pile foundations. PET Uses the pulse-echo method (PEM) for pile integrity testing (PIT).

- Smart Trigger for ease of use
- Automatic Impulse sorting
- ASTM D5882-16, AFNOR P160-2,4
- Rugged and IP68 waterproof

**Applications**

For fast and simple testing of deep pile foundations with the pile integrity method of small to medium size piles.

## Fast and Simple Pile Integrity Test of Deep Pile Foundations

### Reliable

- Specially designed and tested for a hostile construction environment.
- IP68 (Protection against complete, continuous submersion in water).
- 3 years warranty!
- 10 years of free software

### Easy to Use

- Usually, no training is needed, and the system can be self-taught in a few hours. (No expensive training days)
- Unique Smart Trigger for fast & easy quality results.

### Top Performance

- Up to 100 piles/hour can be tested.
- Very low noise level extends the usual limits of the pile integrity test method to longer piles.
- Automatic Impulse sorting

# PET Pro USB – Technical Specification

| | | |
|---|---|---|
| **Physical** | **Housing** | Industrial grade transducer enclosed in durable stainless steel and aluminum housing. |
| | **Dimensions** | 30 mm (Diameter) x 90 mm (Length) (instrument only) |
| | **Weight** | 120g (Instrument only)<br>2.3kg (Typical shipping) |
| | **Temperature range** | Operating: -25°C to 55°C<br>Storage: -40°C to 80°C |
| | **Waterproofing** | IP68 (Protection against submersion in water) |
| **Power** | **USB Cable** | Powered by the attached Computer/Tablet |
| **Standards** | **ASTM D6760 –16** | Meets or exceeds. |
| | **AFNOR P160-2,4** | Meets or exceeds. |
| | **CE** | In conformity with the requirements of CE EMC & Safety Requirements Directive 2014/30/ EU and LVD 2014/35/EU |
| **Technical Features** | **Trigger** | Variable trigger level |
| | **Smart Trigger** | Trigger by impulse shape |
| | **Auto sort** | Automatic sorting of best impacts |
| | **Pile Averaging** | 500kHz (2µS resolution) |
| | **Site Averaging** | Averaging all good impacts -<br>Clears the noise from the reflectogram |
| **Performance** | **Pile lengths** | 2m to 80m (depending on diameter and soil profile > more… |
| | **Productivity** | Up to 100 piles/hour (favorable conditions, single operator) |
| | **Max cable length** | Up to 4m with USB extension cable (2m cable included) |
| | **Max record impulse** | 100ms |
| | **Resolution** | 24bit |
| | **Storage** | Up to 1Tera byte |
| **Requirements** | **Computer** (Minimum) | Windows XP/Win7/Win10/Win11. with USB port<br>800x600 min. screen resolution with full sunlight visibility |
| **Output** | **Reporting** | Time/Distance Reflectogram, FFT analysis - Standard |
| | **Language** | Multi-lingual user interface and reporting |

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# PET Bluetooth

## Pile Echo Tester

PET is used to test the integrity of deep pile foundations. PET Uses the pulse-echo method (PEM) for pile integrity testing (PIT).

- Smart Trigger for ease of use
- Automatic Impulse sorting
- ASTM D5882-16, AFNOR P160-2,4
- Rugged and IP68 waterproof

**Applications**

For fast and simple testing of deep pile foundations with the pile integrity method of small to medium size piles.

## Fast and Simple Pile Integrity Test of Deep Pile Foundations

### Reliable

- Specially designed and tested for a hostile construction environment.
- IP68 (Protection against complete, continuous submersion in water).
- 3 years warranty!
- 10 years of free software

### Easy to Use

- Usually, no training is needed, and the system can be self-taught in a few hours. (No expensive training days)
- Unique Smart Trigger for fast & easy quality results.
- Wireless Bluetooth connectivity to your tablet or smartphone

### Top Performance

- Up to 100 piles/hour can be tested.
- Very low noise level extends the usual limits of the pile integrity test method to longer piles.
- Automatic Impulse sorting

# PET Bluetooth – Technical Specification

| | | |
|---|---|---|
| **Physical** | **Housing** | Industrial grade transducer enclosed in a highly durable polycarbonate plastic (Lexan) |
| | **Dimensions** | 34 mm (diameter) x 120 mm (Length) (instrument only) |
| | **Weight** | 155g (Instrument only)<br>3kg (Typical shipping) |
| | **Temperature range** | Operating: -20°C to 55°C<br>Storage: -40°C to 80°C |
| | **Waterproofing** | IP68 (Protection against submersion in water) |
| **Power** | **Internal** | 2 X AAA Alkaline batteries, 3V total. Sufficient for testing approximately 300 piles. Easily replaceable in the field. |
| **Standards** | **ASTM D5882 –16** | Meets or exceeds. |
| | **AFNOR P160-2,4** | Meets or exceeds. |
| | **CE** | In conformity with requirements of RED 2014/53/EU |
| **Technical Features** | **Trigger** | Variable trigger level |
| | **Smart Trigger** | Trigger by impulse shape |
| | **Auto sort** | Automatic sorting of best impacts |
| | **Pile Averaging** | 500kHz (2µS resolution) |
| | **Site Averaging** | Averaging all good impacts -<br>Clears the noise from the reflectogram |
| **Performance** | **Pile lengths** | 2m to 80m (depending on diameter and soil profile > more… |
| | **Productivity** | Up to 100 piles/hour (favorable conditions, single operator) |
| | **Max wireless range** | Up to 10m |
| | **Max record impulse** | 100ms |
| | **Resolution** | 16bit |
| | **Storage** | Up to 1Tera byte |
| **Requirements** | **Computer** (Minimum) | Windows XP/Win7/Win10/Win11. or Android smartphone /tablet with the latest Android version or one earlier, with Bluetooth hardware. Full sunlight screen visibility. |
| **Output** | **Reporting** | Time/Distance Reflectogram, FFT analysis - Standard |
| | **Language** | Multi-lingual user interface and reporting |

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# CHUM

## Cross Hole Ultrasonic Monitor

The CHUM (Cross Hole Ultrasonic Monitor) uses the Crosshole Sonic Logging CSL testing method to perform high-resolution quality control of deep foundations.

- Up to 150m (450') deep
- Tomography support Standard
- ASTM D6760, AFNOR NF P 94-160-1
- Integrated support for DFI CSL Rating Criteria

**Applications**

For testing pile integrity using the CSL method, of medium to large size piles, with supporting access tubes. CHUM also supports 3D Tomography covered in this catalog.

## Fast and Reliable Crosshole Deep Pile Foundations Testing

### Reliable

- 100% QA tests at 16-atmosphere pressure, vibration, and extreme temperature.
- The CHUM case can tolerate drops and shocks.
- 3 years warranty!
- Rugged connectors, cables & sensors
- 10 years free software upgrade

### Easy to Use

- Usually, no training is needed, and the system can be self-taught in hours. (No expensive training days)
- Supports AGC (Automatic Gain Control) for simple, fast, and accurate performance in dynamic conditions.

### Top Performance

- Up to 150m (450') deep. (Deeper optional)
- A clean signal on 3m and more on solid concrete.
- Highest SNR. Delivers the cleanest signal in the industry.
- Productivity - 4 tubes X 25m piles - 8 such piles tested in 2 hours!

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# CHUM – Technical Specification

| | | |
|---|---|---|
| **Physical** | **Housing** | Rugged, Environment-proof, water-resistant housing. |
| | **Dimensions** | 430mmL x 325mmW x 105mmH (instrument only) |
| | **Weight** | 3.8 kg (instrument only)<br>5.0 kg (instrument with typical tablet)<br>16.0kg (Typical shipping) |
| | **Temperature range** | Operating : -25°C to 60°<br>Storage : -40°C to 70°C |
| **Power** | **Internal** | Rechargeable Lithium-Ion battery 11.1V 4.4Ah<br>(Two days of typical use) |
| | **External** | 100-240V AC operation/charging |
| **Standards** | **ASTM D6760 –16** | Meets or exceeds |
| **Technical** | **Transducers** | Dual-Purpose transceivers, 50kHz nominal, pressure-tested housing, 25mm diameter. |
| | **Cables** | tested housing, 25mm diameter |
| | **Sample rate** | Heavy-duty polyurethane wound on a reel |
| | **Gain** | 500kHz (2µS resolution) |
| | **Depth meters** | 8-level automatic gain control (AGC)<br>Two 24-bit counters. <0.1% error |
| **Performance** | **Pile lengths** | 1m to 150m |
| | **Tube spacing** | Up to 5m in good concrete |
| | **Productivity** | Up to 3000m/Day by a single operator |
| | **Storage** | Unlimited |
| **Requirements** | **Computer** (Minimum) | Windows XP/Win7/Win10/Win11.<br>800x600 resolution or higher |
| **Output** | **Reporting** | Arrival time, energy, and wave speed curves, “waterfall” presentation, fuzzy logic and 3D tomography |
| | **Language** | Multi-lingual user interface and reporting |
| **Options** | **Cable reels** | 50m, 100m, 150m, and custom lengths |
| | **Software** | 3DT - Three-dimensional tomography (Also provided as a service over e-mail) |
| | **Miscellaneous** | 12V DC car battery power adapter |

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# BIT

## Borehole Inclination Tester

BIT measures the verticality of a borehole AND of existing piles. BIT uses the auger/bucket as the centralizer in the borehole. Eliminating the need for a heavy-to-move system.

- No expensive inclinometer tubes.
- Lightweight 1-person simple operation
- Works on any diameter
- ASTM D8232-18 Standard compliant

**Applications**

Measurement of inclination is required to ensure the deep foundation (vertical or raked) stays within the allowable deviation, typically 2%. More stringent requirements are often specified for diaphragm and secant walls to ensure that there are no gaps in the wall and that the bottom of the wall is in the correct location. Inclination measurement is also utilized in deep wells for various applications.

## Easy to Operate Inclination test for Borehole and Pile Foundations Diaphragm and Secant Walls

### Reliable

- 100% QA tests at 16-atmosphere pressure, vibration, and extreme temperature.
- The BIT sensor can tolerate the harsh conditions of the borehole and drill machine.
- 3-year warranty!
- Rugged connectors, cables, sensors.

### Easy to Use

- One operator can handle the lightweight BIT and the inclination test.
- Easy and Simple to use Android software App.
- 3D borehole visual for augmented reality experience in locating inclined borehole position.

### Top Performance

- 0.1% accuracy.
- Check the inclination of a 50m borehole in less than 20 minutes.
- Works on any diameter.
- Use simple PVC tubes instead of expensive grooved test tubes.
- Test in metal casing, with magnetic agnostic sensor
- Weighs under 13Kg

# BIT – Technical Specification

| | | |
|---|---|---|
| **Physical** | **Housing** | Rugged, Environment-proof, water-resistant housing. |
| | **Dimensions** | 430mmL x 325mmW x 105mmH (instrument only) |
| | **Weight** | 6.0 kg (instrument with 80m cable)<br>7.0 kg (CSL centralizer)<br>13.0kg (Typical shipping) |
| | **Temperature range** | Operating: -25°C to 60°<br>Storage: -40°C to 70°C |
| | **Humidity** | 90% (non-condensing) |
| | **Waterproof** | Sensor: IP67, Protection against complete submersion<br>Instrument: IP62, 90% condensation (light rain) |
| **Power** | **Internal** | Rechargeable Lithium Ion battery, 7.4 V 500mAh,<br>(Supports a full day of typical use) |
| | **External** | 100-240V AC operation/charging |
| **Standards** | **ASTM D8232-18** | Meets or exceeds |
| **Technical** | **Wireless** | Bluetooth, 2.4Ghz. |
| | **Depth meter** | Wireless (Zigbee) with internal 1400mAh battery and magnetic charger adapter |
| | **Inclinometer** | MEMS, dual axis, temperature-compensated MEMS |
| | **Gyro** | Automatic drift compensation |
| | **Cables** | 80m (150m optional) rugged Polyurethane |
| **Performance** | **Borehole depth** | 5m-140m |
| | **Borehole diameter** | Unlimited |
| | **Productivity** | 10-20 minutes/borehole (Typical) |
| | **Accuracy** | Inclination: 0.1% (0.07°)<br>Depth: 0.05m |
| **Output** | **Reporting** | Produced on office PC, including top view of pile axis, a vertical section in the direction of maximum inclination and more |
| **Requirements** | **Computer** (Minimum) | Windows Win7/Win10/Win11.<br>1024x768 resolution min. |

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# BIT – Accessories

| Accessory Name | Description | Comment |
|---|---|---|
| 28 – Centralizer | | BIT sensor diameter rod |
| 40-60 Centralizer |  | CSL tube centralizer for diameter 40-60 mm (1.5”-2.5”) |
| 60-100 Centralizer |  | Pile tube centralizer for diameter 60-100 mm (2.5”-4”) |
| 100-150 Centralizer |  | Pile tube centralizer for diameter 100-150 mm (4”-6”) |
| 200-400 Centralizer |  | Pile tube centralizer for diameter 200-400 mm (8”-16”) |
| Bucket Adapter KIT |  | Kit to connect the BIT sensor to the drill bucket, when the drill bucket is the centralizer. Contains: Precision Level + Mounting base + Mounting arms |
| Spare Mounting arms |  | Mounting arms are welded to the bucket. You can buy more for new projects where the bucket is the centralizer |
| Precision Level |  | The BIT Precision Level ensures the sensor is mounted correctly for precises measurement of the inclination. Locks on the BIT centralizer or mounting base |
| Mounting base |  | The mounting base, allows connecting and disconnecting the BIT sensor from the bucket (centralizer), while keeping the leveled welded base in place |

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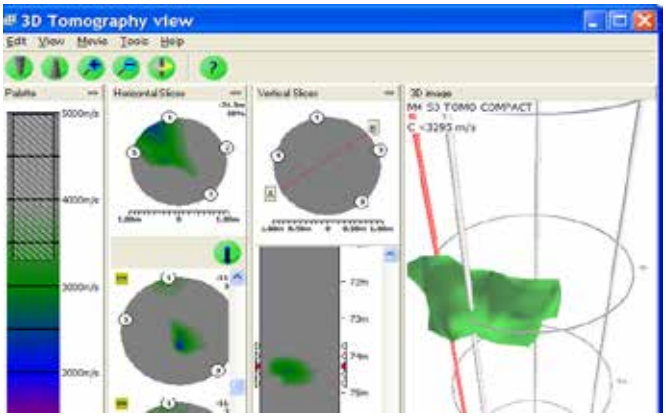


# 3D Tomography (3DT)

## CHUM crosshole monitoring Tomography software

While regular (1D) CSL can only show the depth of an anomaly, tomography can help visualize its shape, size, and location. Tomography is an analysis and presentation method of captured CSL data that projects the logged results into a two-dimensional (2D) plane or three-dimensional (3D) body.

**Advantages**

- True 3D tomography (compare and see)
- Bonus 3D tomography generation from initial 2D data.
- 2D Tomography is standard with CHUM crosshole.
- Real-time Tomography - Only with CHUM.

**Applications**

When a suspected problem is found in a CSL test, performing 3DT may reveal more information. 3DT visualization makes it easier to view anomalies' size and location relative to the pile. Hence, 3DT visualization can support the test engineer's decision-making process when evaluating anomalies' effect on a pile's capacity and serviceability.

## It is easy to generate 3D Tomography from the CHUM standard 2D Tomography.

### Reliable

- True 3D tomography
- Based on four tomography algorithms.
- Choose between FAT-based tomography (velocity), attenuation-based tomography (Energy), or a combination.

### Easy to Use

- Collect data with standard 2D CHUM tomography.
- Get a bonus 3D presentation from Piletest (limited).
- Purchase once you are convinced of its value.

### Top Performance

- It uses three tomography algorithms.
- Real-time 2D tomography.
- Matrix-based inversion
- Fuzzy Logic (unique for CHUM).
- Animated 3D tomography display.

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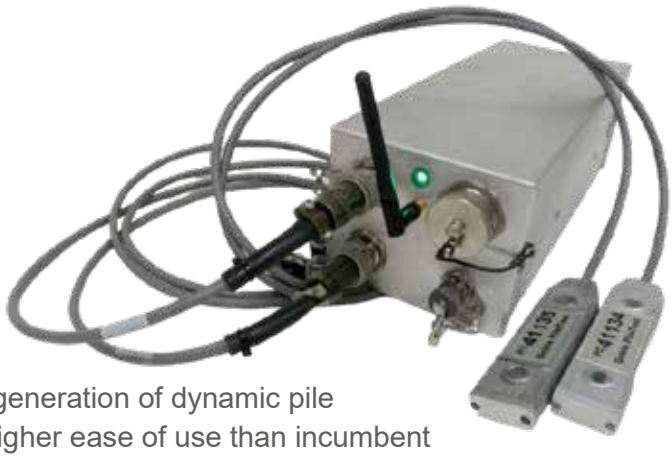

# GPC

## Pile Driving Analysis (PDA) system

The GPC is the PDA system from Piletest. It is the next generation of dynamic pile testing systems, designed with simplified software and higher ease of use than incumbent systems. Professor George G. Goble, the pioneer of dynamic pile analyzers, designed the GPC system. It comes with -

- Lossless Wireless Transmission.
- Simple single main (data) unit for both sides of the pile.
- Comboducer – Strain gauge + Accelerometer transducers combined in one sensor. Prevents nonvertical accelerometer mounting (common with the incumbent system) with fewer bolts.
- Eight channels - Dual GPC systems for four Comboducers or Single GPC with averaging cables.
- ASTM D4945 Standard compliant.

**Applications**

You only need to connect two Comboducer (dual-purpose) sensors to test a driven pile dynamically while it is driven into the ground. Lossless wireless transmission of data from the main unit, hanging on the driven pile, makes field work faster and simpler.

## Fast & Simple Pile Driving Analysis (PDA) system in Real Time

### Reliable

- Lossless wireless communication - 100% reliable wireless connection.
- The GPC main unit was designed to tolerate the harsh pile driving conditions. Watch
- 3-year warranty!
- Rugged connectors and sensors.

### Easy to Use

- Single sensor for two transducers, with Comboducer = Accelerometer + Strain gauge.
- One operator can handle the lightweight GPC system.
- Easy and Simple to use software.

### Top Performance

- Dual channel lossless WiFi connection.
- N_GAPA - Top-notch Automatic Pile Analysis software for signal matching analysis, proven to be equal to and faster than CAPWAP.
- Real-time analysis of non-uniform piles in the field.

# GPC – Technical Specification

| | | |
|---|---|---|
| **Physical** | **Housing** | Industrial grade DAC enclosed in a durable aluminum housing. |
| | **Dimensions** | 82 mm x 108 mm x 280 mm (Ver 1.4) |
| | **Weight** | 1.9 Kg (Ver 1.4)<br>10.0 Kg (Typical shipping) |
| | **Temperature range** | Operating: -25°C - 55°C<br>Storage: -40°C - 80°C |
| | **Humidity** | 90% condensing |
| | **Waterproofing** | IP61 (Protection from condensation) |
| **Power** | **Internal** | Rechargeable Lithium Ion battery,<br>2 hours charge (Supports full day of typical use 5-8 hours) |
| | **External** | 100-240V AC Charger |
| **Standards** | **ASTM D4945** | Meets or exceeds. |
| | **EN ISO-22477-4** | Meets or exceeds. |
| **Technical** | **Wireless** | WiFi – 802.11ac. |
| | **Cable** (optional) | Standard CAT5 RJ45. |
| | **Starin gauge** | |
| | Resolution | 0.5 με |
| | Sensitivity | 500 μ/mV/V Nom. |
| | Nonlinearity | <0.05% |
| | Range | -3600 με - +3600 με |
| | **Accelerometer** | Piezoresistive |
| | Resolution | 0.01 g |
| | Sensitivity | 0.060 mV/g Nom. |
| | Nonlinearity | <0.05% |
| | Range | -5000 g - +5000 g |
| | **Sampling Frequency** | 10 KHz – 50 KHz |
| | **Sampling Resolution** | 24-bit |
| **Performance** | **Pile Lengths** | Unlimited |
| | **Pile Type** | Unlimited (Concrete, Steel, Timber)<br>Any non-uniform piles |
| **Requirements** | **Computer** (Minimum) | Microsoft Windows OS Win 7 /Win 10/ Win 11<br>1366x768 resolution or better<br>USB port + WiFi 802.11ac<br>Recommended for BYOD: Tablet PC (outdoor display) |

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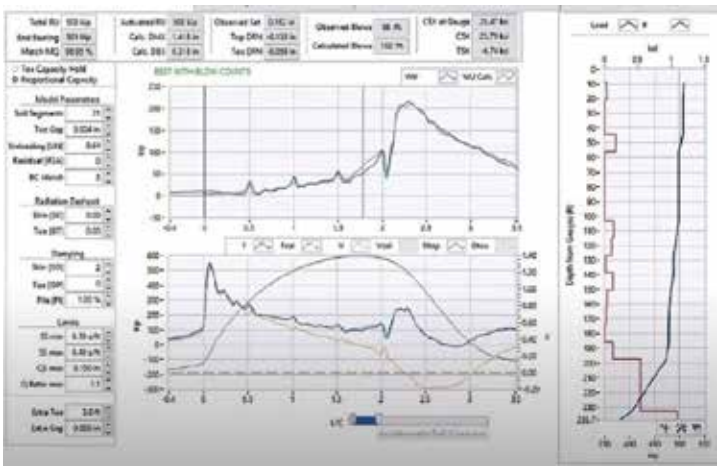


# N_GAPA
# iN_GAPA

## Pile Driving Analysis (PDA) software

N_GAPA is the next generation of automatic Pile Driving Analysis software for dynamic pile testing, comparable to and better than CAPWAP*. N_GAPA software estimates the total bearing capacity of a pile or shaft, as well as resistance distribution along the shaft and at the toe. It is easy to use and super-fast. iN_GAPA is the instant analysis version of N_GAPA and uses the exact same mathematical engine model.

### Advantages

- Estimates the total bearing capacity of a pile or shaft.
- N_GAPA and CAPWAP results are the same (see next page).
- It can be used on any pile configuration (non-uniform piles).
- Real time signal match analysis.

### Applications

Using N_GAPA to analyze the test results recorded by the GPC system allows real-time analysis of the test being performed, with real-time signal match, to ensure proper pile driving and faster decision-making on pile capacity and integrity.

## Fast & Simple Pile Driving Analysis (PDA) system in Real Time

### Reliable

- Proven as equal performance or better than CAPWAP.
- Free software upgrade.
- iN_GAPA and N_GAPA data are interchangeable for improved analysis.

### Easy to Use

- Simple graphs to get the full picture in real-time.
- Complementary to the GPC PDA system.

### Top Performance

- Pile Analysis in real-time.
- Proven to be equal to and faster than CAPWAP.
- Real-time analysis of non-uniform piles in the field.

# N_GAPA – Compared to CAPWAP

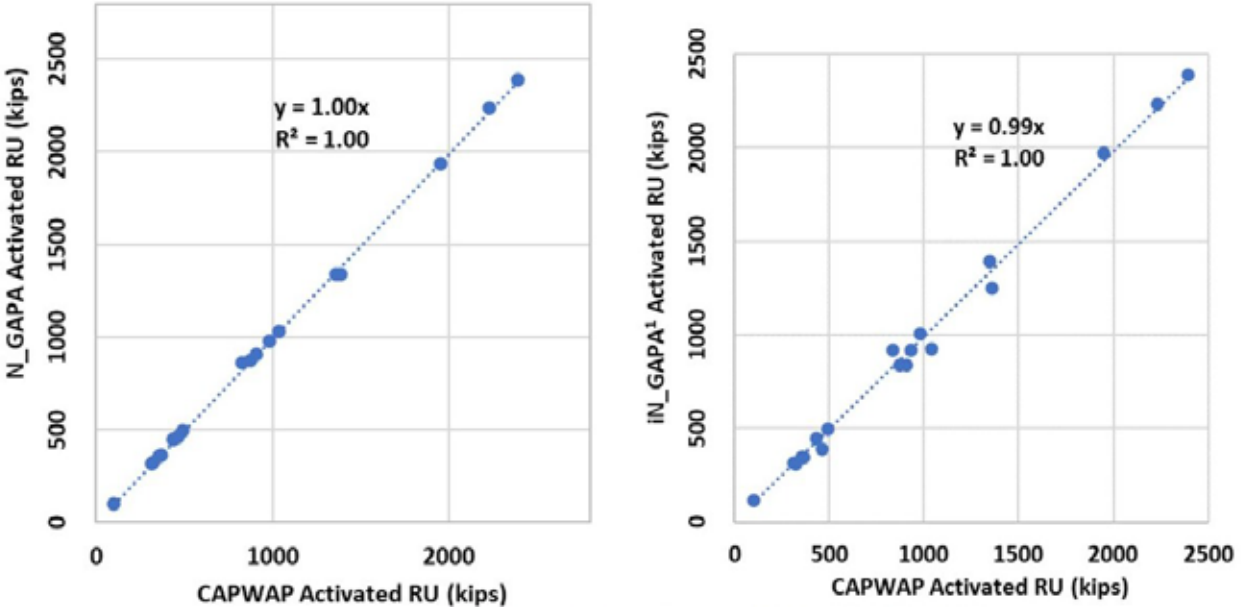
N_GAPA and CAPWAP test results

| | | | RU activated | | | | Difference to CAPWAP | | | Lumped JC |
|---|---|---|---|---|---|---|---|---|---|---|
| # | Type | Pile | CAPWAP | N_GAPA | iN_GAPA[1] | iN_GAPA[2] | N_GAPA | iN_GAPA[1] | iN_GAPA[2] | |
| 1 | H Pile | 240-ft | 492.7 | 497.0 | 492.1 | 465.4 | 0.87% | -0.12% | -5.54% | 0.49 |
| 2 | | 24.1-ft | 366.5 | 362.0 | 339.4 | 347.2 | -1.23% | -7.39% | -5.27% | 10.00 |
| 3 | | 24.5-ft | 356.9 | 357.0 | 344.5 | 346.3 | 0.03% | -3.47% | -2.97% | 2.10 |
| 4 | Concrete | large QT | 463.8 | 460.0 | 391.5 | 395.7 | -1.03% | -15.59% | -14.68% | 0.30 |
| 5 | | long rise time | 983 | 981.0 | 1005.6 | 967.7 | -0.20% | 2.30% | -1.56% | 0.38 |
| 6 | | | 909.9 | 910.0 | 840.6 | 827.6 | 0.01% | -7.62% | -9.04% | 0.40 |
| 7 | Stinger | Stinger pile | 1388.0 | 1346.6 | 1391.9 | 1459.9 | -0.37% | 3.41% | 8.46% | 1.64 or 0.88[3] |
| 8 | H Pile | 41-ft | 323.2 | 323.0 | 307.6 | 309.8 | -0.06% | -4.83% | -4.15% | 1.20 |
| 9 | | 107-ft | 435.3 | 446.0 | 446.1 | 459.4 | 2.46% | 2.48% | 5.54% | 1.10 |
| 10 | Concrete | 56.5-ft | 1360.3 | 1343.0 | 1249.8 | 1258.5 | -1.27% | -8.12% | -7.48% | 0.27 |
| 11 | | gradual rise | 312.1 | 315.0 | 316.5 | 324.1 | 0.93% | 1.41% | 3.84% | 0.75 |
| 12 | Becker | Becker BPT | 99.9 | 98.0 | 107.4 | 109.5 | -1.90% | 7.51% | 9.61% | 0.68 |
| 13 | Pipe pile | 115-ft | 874.5 | 872.0 | 835.5 | 860.9 | -0.29% | -4.46% | -1.56% | 0.51 |
| 14 | | 153.7-ft | 1038.1 | 1029.0 | 925.3 | 955.0 | -0.88% | -10.87% | -8.01% | 0.42 |
| 15 | Concrete | End Bearing | 1950.8 | 1939.0 | 1972.6 | 1954.3 | -0.60% | 1.12% | 0.18% | 2.00 |
| 16 | Auger Cast | 140-ft; D=36-in | 2391.8 | 2387.0 | 2388.6 | 2388.8 | -0.20% | -0.13% | -0.13% | 0.00 |
| 17 | | 140-ft; D=36-in | 2229.3 | 2236.0 | 2232.8 | 2329.2 | 0.30% | 0.16% | 4.48% | 0.00 |
| 18 | H Pile | End Bearing | 835.4 | 863.0 | 916.0 | 926.6 | 3.30% | 9.65% | 10.92% | 2.00 |
| | | **Average** | **931.6** | **931.0** | **916.9** | **927.0** | **-0.01%** | **-1.58%** | **-0.50%** | |

[1] iN_GAPA from importing txt file

[2] iN_GAPA results from "Reset Analysis"

[3] Depending on what LE used while in data acquisition mode




N_GAPA and CAPWAP Comparison of Capacity Analysis

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# PSI

## Parallel Seismic Instrument

PSI uses the well-known Parallel Seismic method to establish the length of existing foundations (specifically for a pile or deep foundations) where the superstructure (i.e. existing building) precludes access to the pile heads. It is sometimes the only pile integrity test that can be performed.

- For making reuse of old piles.
- Easy to run test.
- Measures only the pile length under a structure.
- Standard compliant with
    - AFNOR NF P94-160-3
    - ASTM D8381-21


**Applications**

The test requires the installation of a plastic access tube in parallel and as close as possible to the tested pile. The tube should be carried down to a depth exceeding the assumed pile length by a margin of 8-10 meters and filled with water. In unsaturated soil the tube should be firmly grouted in the hole to achieve good coupling with the surrounding soil.

## Easy to Operate Inclination test for Borehole and Pile Foundations, Diaphragm and Secant Walls

### Reliable

- Specially designed and tested for a hostile construction environment.
- 3-year warranty!
- 10 years free software
- Rugged connectors, cables & sensors

### Easy to Use

- Easy to use: It is usually self-taught in less than a day. No additional expensive training is needed.
- Interpretation assistance by Second Opinion Services (SOS) is included.

### Top Performance

- Highly sensitive acoustic sensors
- Check any pile length up to 50m in less than 20 minutes.
- Test all types of deep pile foundations.
- Weighs under 10Kg

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# PSI – Technical Specification

| | | |
|---|---|---|
| **Physical** | **Housing** | Sensor: Rugged metal case<br>Instrument: Rugged, Environment-proof |
| | **Dimensions** | 210W x 140L x 40H (instrument only) |
| | **Weight** | 6.0 kg (instrument with 50m cable)<br>0.8 kg (instrument only)<br>13.0kg (Typical shipping) |
| | **Temperature range** | Operating: -25°C to 50°<br>Storage: -40°C to 70°C |
| | **Humidity** | 90% (non-condensing) |
| | **Waterproof** | Sensor: IP67, Protection against complete submersion<br>Instrument: IP62, 90% condensation (light rain) |
| **Power** | **Internal** | USB cable, from computing device |
| **Standards** | **ASTM D8232-18**<br>**AFNOR NF P94-160-3** | Meets or exceeds |
| **Technical** | **Hydrophone** | 100Hz ~ 4kHz in stainless enclosure.<br>25 mm diameter |
| | **Cables** | Heavy-duty polyurethane on reel. |
| | **Sample rate** | 50kHz (20µS resolution) |
| | **Resolution** | 16bit A/D + 14 gain levels = 30bit dynamic range . |
| | **Depth accuracy** | 3mm resolution <0.1% error. |
| **Performance** | **Pile length** | 1m-50m |
| | **Productivity** | 10-15 min (depending on pile length) per pile |
| | **Memory Storage** | Unlimited |
| **Output** | **Reporting** | Arrival time vs. depth<br>Pile tip depth<br>Wave speed in the pile |
| | **Language** | Multi-lingual report generation in MS Word format |
| **Requirements** | **Computer** (Minimum) | Windows Win7/Win10/Win11.<br>Screen resolution 1280 x 1024 min. |

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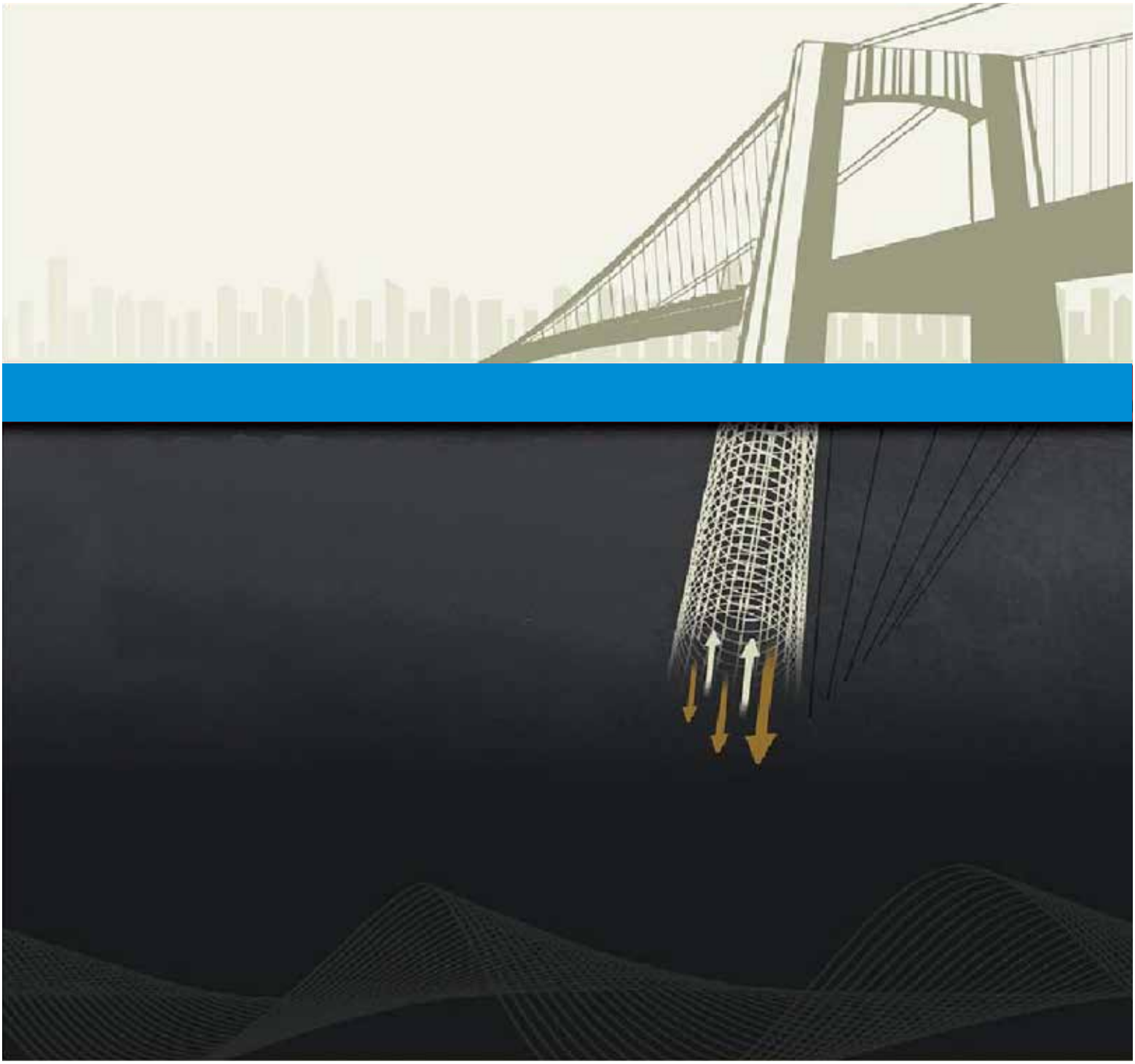

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