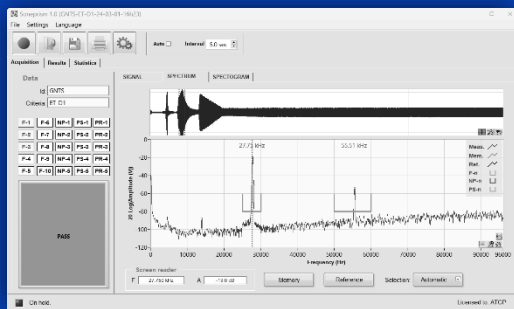


Soneteste® Systems

Catalog



ATCP Physical Engineering

www.atcp-ndt.com

Version 1.0
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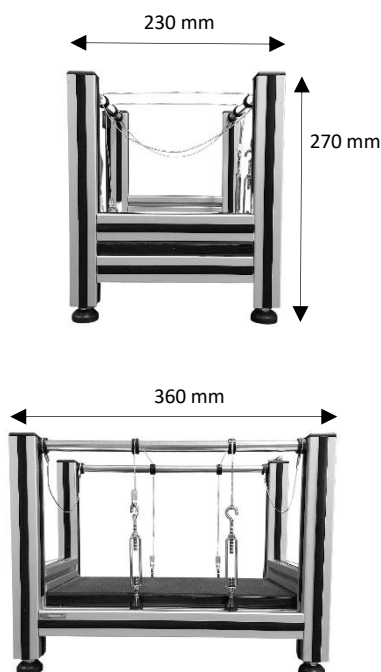
SA-BC

Adjustable support for bars and cylinders

Features:

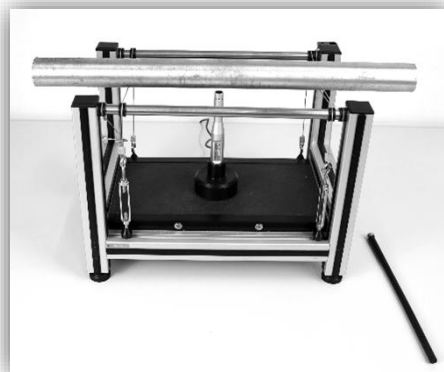
- Developed for the Impulse Excitation Technique (ASTM-E1876) and for Resonant Acoustic Spectroscopy (ASTM-E2001).
- Suitable for rectangular bars and cylinders with length between 100 and 450 mm and weight up to 30 kg (66 lbs).
- Optimum for flexural vibration mode.
- Allows tests on longitudinal and torsional vibration modes.
- Manufactured with stainless steel rods and anodized aluminum.
- Available in manual and automatic configurations.

Dimensions:



Specifications:

Model	SA-BC-G2
Manufacturer	ATCP Physical Engineering
Maximum dimensions for cylindrical specimens (L x D)	450 x 200 mm
Minimum dimensions for cylindrical specimens (L x D)	100 x 5 mm
Maximum dimensions for rectangular specimens (L x W x T)	450 x 170 x 170 mm
Minimum dimensions for rectangular specimens (L x W x T)	100 x 5 x 5 mm
Maximum weight when using Ø 0.7 mm support-cable	10 kg
Maximum weight when using Ø 1.2 mm support-cable	30 kg
Support maximum dimensions (L x W x T)	360 x 230 x 270 mm
Support weight	4.2 kg
Working temperature range	10 - 40°C (50 to 104 °F)



Typical configurations:

Manual:

- **Parts:**
 - SA-BC Adjustable Support;
 - CA-DP Acoustic Sensor with vertical base.
- **Accessories:**
 - Set of spare support-cables;
 - Height-adjusting disc;
 - Medium Manual Impulse Device;
 - Light Manual Impulse Device;
 - Protective cap.
- **Optional items:**
 - Sturdy Tripod;
 - Medium-sized Tripod.

Automatic:

- **Parts:**
 - SA-BC Support;
 - CA-DP Acoustic Sensor.
- **Accessories:**
 - Set of spare support-cables;
 - Height-adjusting disc;
 - IED Automatic Impulse Device (C. unit);
 - Medium RT Impulse Device for IED.
 - Medium Manual Impulse Device;
 - Light Manual Impulse Device;
 - Protective cap.
- **Optional item:**
 - Sturdy Tripod.

SB-AP

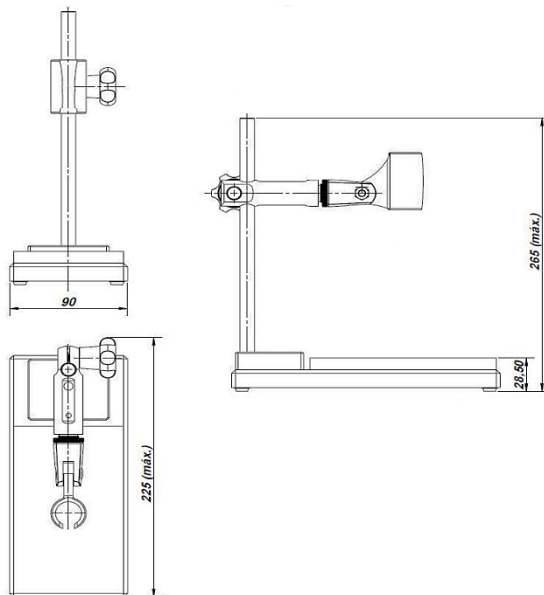
Support for small specimens and cantilever beams

Features:

- Developed for the Impulse Excitation Technique (ASTM-E1876) and for Resonant Acoustic Spectroscopy (ASTM-E2001).
- Allows cantilever beams characterization (ASTM-E756).
- Suitable for rectangular bars, cylinders, discs and rings.
- For flexural, torsional and planar modes of vibration on foam.
- Manufactured in stainless steel and anodized aluminum.
- Available in standard and with jaw system configurations.



Dimensions:



Typical configurations:

Standard:

- **Parts:**
 - SB-AP Support;
 - CA-DP Acoustic Sensor model CADPS.
- **Accessories:**
 - Light Manual Impulse Device.
- **Optional items**
 - Light RT Impulse Device (IED);
 - Control unit (IED).

Cantilever:

- **Parts:**
 - SB-AP Support;
 - CA-DP Acoustic Sensor model CADPS.
- **Accessories:**
 - Jaw system for cantilever beams;
 - Light Manual Impulse Device.
- **Optional items:**
 - Light RT Impulse Device (IED);
 - Control unit (IED).

Specifications:

Model	SB-AP
Manufacturer	ATCP Physical Engineering
Maximum dimensions for cylindrical specimens (L x D)	120 x 60 mm
Minimum dimensions* for cylindrical specimens (L x D)	15 x 2 mm
Maximum dimensions for rectangular specimens (L x W x T)	120 x 40 x 40 mm
Minimum dimensions* for rectangular specimens (L x W x T)	15 x 2 x 2 mm
Maximum dimensions for cantilever beams (L x W x T)	200 x 25 x 5 mm
Minimum dimensions* for cantilever beams (L x W x T)	120 x 10 x 0.5 mm
Maximum dimensions for discs and rings (D x T)	80 x 8 mm
Minimum dimensions* for discs and rings (D x T)	15 x 1 mm
Support maximum dimensions (L x W x T)	90 x 225 x 265 mm
Standard support weight	1.2 kg
Clamping support weight	2.1 kg
Working temperature range	10 - 40°C (50 - 104 °F)

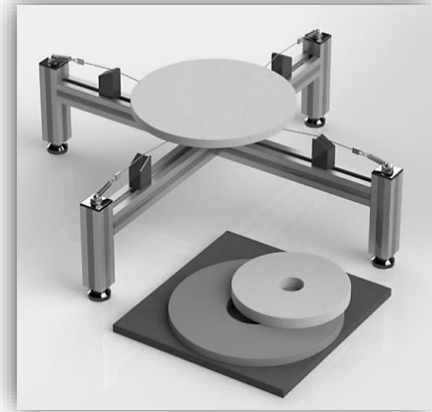
*Note: The minimum dimensions may vary according to the elastic properties of the material and the aspect ratio of the specimen.

SX-PD

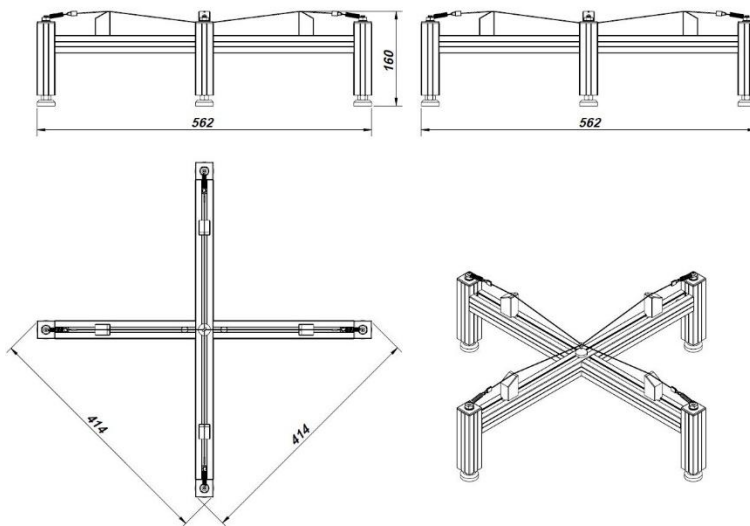
Adjustable support for discs and rings

Features:

- Developed for the Impulse Excitation Technique (ASTM-E1876) and for Resonant Acoustic Spectroscopy (ASTM-E2001).
- Suitable for discs and rings with diameter up to 380 mm and weight up to 30 kg.
- Optimum for planar vibration mode.
- Manufactured with anodized aluminum.
- Available in manual and automatic configurations.



External dimensions:



Typical configurations:

Manual:

- Parts:

- SX-PD Support;
- CA-PD Acoustic Sensor with vertical base.

- Accessories:

- Medium Manual Impulse Device.

Automatic:

- Parts:

- SX-PD Support;
- CA-PD Acoustic Sensor with vertical base.

- Accessories:

- Medium Manual Impulse Device;
- IED Automatic Impulse Device (C. unit);
- Medium RT Impulse Device for IED.

Specifications:

Model	SX-PD
Manufacturer	ATCP Physical Engineering
Maximum dimensions for circular specimens (D x T)	380 x 60 mm
Minimum dimensions for circular specimens (D x T)	80 x 5 mm
Maximum dimensions for rectangular specimens* (L x W x T)	380 x 380 x 60 mm
Minimum dimensions for rectangular specimens* (L x W x T)	60 x 60 x 5 mm
Maximum weight capacity	30 kg
Distance range between the sliding props	50 - 385 mm
Support dimensions (L x W x T)	562 x 562 x 160 mm
Support weight without a specimen	1.6 kg
Working temperature range	10 - 40°C (50 - 104 °F)

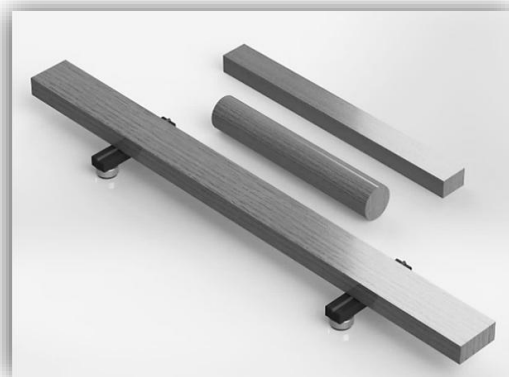
(*) The Sonelastic Systems and SX-PD Support may be used to characterize the resonance frequencies of non-circular plates, but not their elastic moduli because of the aspect ratio.

SA-AG

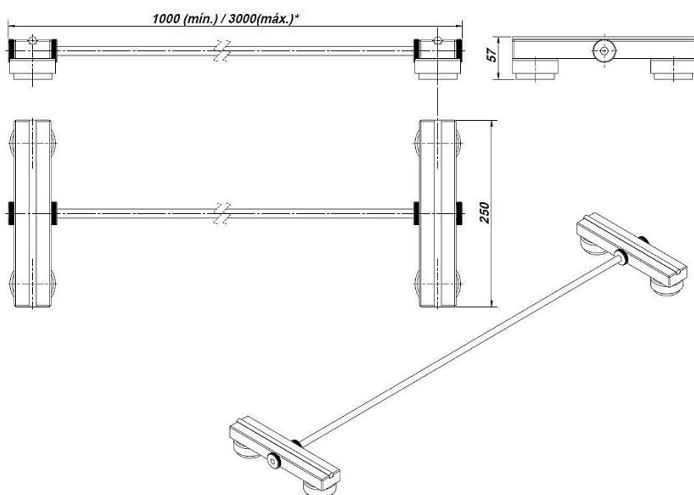
Adjustable support for large specimens

Features:

- Developed for the Impulse Excitation Technique (ASTM-E1876) and for Resonant Acoustic Spectroscopy (ASTM-E2001).
- Suitable for bars and cylinders up to 5.3 m long and 200 kg heavy.
- Optimum for tests applying flexural vibration mode.
- Allows tests on longitudinal and torsional vibration modes.
- Manufactured in stainless steel and Nylon.



Dimensions:



**With optional extension rod.*

Typical configuration:

- Parts:

- SA-AG Support;
- CA-DP Acoustic Sensor;
- Sturdy Tripod.

- Accessories:

- Medium Manual Impulse Device;
- Extension rod.

- Optional item:

- Extension rod (maximum of 1 unit).

Specifications:

Model	SA-AG
Manufacturer	ATCP Physical Engineering
Maximum dimensions for rectangular specimens* (L x W x T) ..	5,300 x 200 x 200 mm
Minimum dimensions for rectangular specimens (L x W x T)	120 x 20 x 20 mm
Maximum dimensions for cylindrical specimens* (L x D)	5,300 x 200 mm
Minimum dimensions for cylindrical specimens (L x D)	120 x 30 mm
Maximum dimensions for the standard support (L x W x T)	1,000 x 250 x 57 mm
Maximum dimensions for the extended support* (L x W x T)	3,000 x 250 x 57 mm
Maximum weight	250 kg
Support weight	3.0 kg
Extended support weight without a specimen*	5.3 kg
Working temperature range	10 - 40°C (50 - 104 °F)

** For the support extended with one extension rod.*

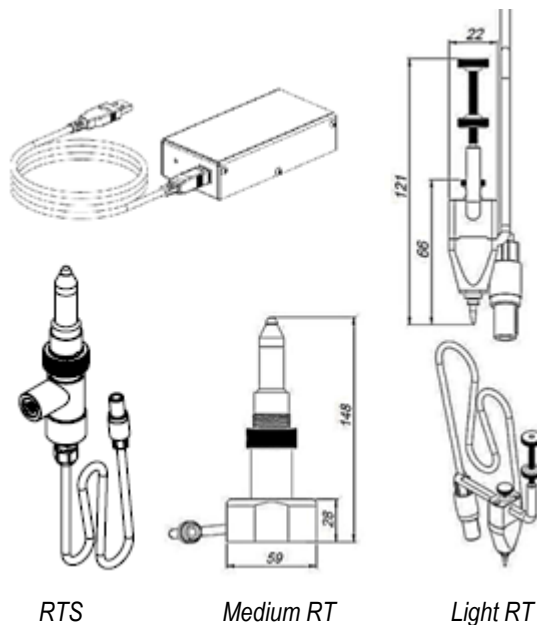
IED Automatic Impulse Device

Features:

- Developed for the Impulse Excitation Technique (ASTM-E1876) and for Resonant Acoustic Spectroscopy (ASTM-E2001).
- Allows automatic, adjustable and reproducible impulse excitation.
- Remote operation via USB by Soneteste® Software.
- Impulse devices made of stainless steel, anodized aluminum and Nylon.
- Suitable for SA-BC, SB-AP, SX-PD, SP-B and SP-HZ supports.
- USB powered.



Dimensions:



Typical configuration:

- Parts:

- Control unit;
- RTS Impulse Device, or
- Medium RT Impulse Device, or
- Light RT Impulse Device.

- Accessories:

- USB cable.

- Optional items:

- RTS Impulse Device;
- Medium RT Impulse Device;
- Light RT Impulse Device.

Control unit specifications:

Model	IED-USBPW
Manufacturer	ATCP Physical Engineering
Adjustable voltage range for the excitation electrical pulse	1 - 11 V
Adjustable time range for the excitation electrical pulse	1 - 60 ms
Protection against electric shock.....	Class I
International Protection Rating (IP code).....	IP30
USB port current consumption	Up to 500 mA
Output voltage (max)	11 VDC
Output current (max).....	1.25 A
Control unit dimensions (L x P x A).....	125 x 60 x 36 mm
Weight	250 g
Working temperature range	10 - 40°C (50 - 104 °F)

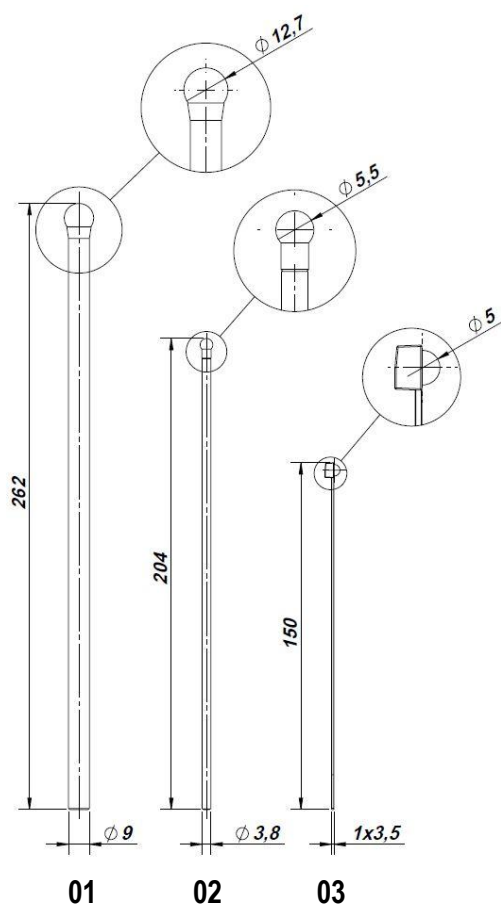
Medium, Light and Extra Light Manual Impulse Devices

Features:

- Developed for the Impulse Excitation Technique (ASTM-E1876) and for Resonant Acoustic Spectroscopy (ASTM-E2001).
- Impact tip made of stainless steel.
- Handle made of high damping polymer.
- Suitable for the manual configurations of SA-BC, SB-AP, SX-PD, SA-AG and SP-HZ supports.



Dimensions:



Technical specifications:

01 – Medium Manual Impulse Device:

Model: PMM
Total length: 262 mm
Ø of the body 9 mm
Ø of the impact tip 12.7 mm
Weight 25 g

02 – Light Manual Impulse Device:

Model: PML
Total length: 204 mm
Ø of the body 3.8 mm
Ø of the impact tip 5.5 mm
Weight 3 g

03 – Extra Light Manual Impulse Device:

Model: PMEL
Total length: 150 mm
Ø of the body 3.5 x 1.0 mm
Ø of the impact tip 5.0 mm
Weight 1 g

Manufacturer: ATCP Physical Engineering.

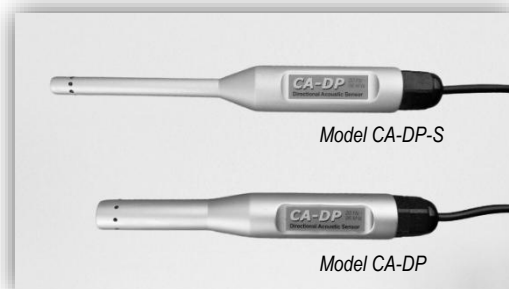
General specifications:

Manufacturer ATCP Physical Engineering
Working temperature range 10 - 40°C (50 - 104 °F)

Acoustic Sensor CA-DP

Features:

- Developed for the Impulse Excitation Technique (ASTM-E1876) and for Resonant Acoustic Spectroscopy (ASTM-E2001).
- Directional, it is more sensitive to the specimen acoustic response than to background noise.
- Small diameter tip (CA-DP-S) for greater precision in positioning on small specimens.
- Frequency range of 20 Hz to 192 kHz.
- TRS P2 / 3.5 mm connector.
- Manufactured of anodized aluminum.
- 1.5 m shielded cable.



Typical configuration:

- Parts:

- Acoustic Sensor model CA-DP, or
- Acoustic Sensor model CA-DP-S (for small specimens).

- Optional items:

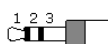
- Vertical mounting base;
- Sturdy Tripod;
- Middle-sized Tripod;
- Extension cable.



Specifications:

Models	CA-DP and CA-DP-S
Manufacturer	ATCP Physical Engineering
Transducer element	Custom electret
Frequency range	20 Hz - 192 kHz
Sensibility	-40 ±8 dB (0 dB = 1 V/Pa)
Directivity	-10 dB in 90° @ 1 kHz / 1 cm
Signal-noise ratio (S/N)	≥ 56 dBA
Supply voltage	2 - 10 VDC
Impedance	1 kΩ
Maximum dimensions: Ø x L (Model CA-DP)	20 x 140 mm
Maximum dimensions: Ø x L (Model CA-DP-S)	20 x 160 mm
Tip diameter (Model CA-DP)	12.7 mm
Tip diameter (Model CA-DP-S)	8 mm
Weight	110 g
Working temperature range	10 - 40°C (50 - 104 °F)
Connector	TRS P2 / 3.5 mm

Wiring:

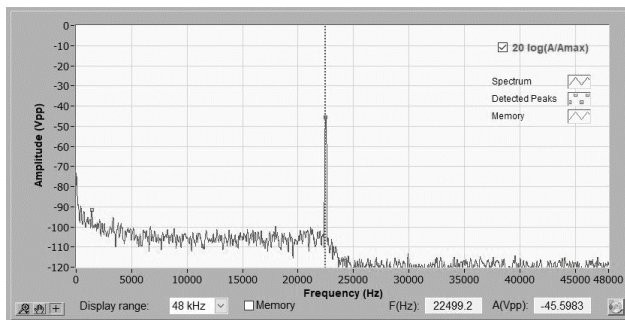


- 1: Signal;
- 2: Bias;
- 3: Ground.

Signal acquisition USB module ADAC

Features:

- Developed for the Impulse Excitation Technique (ASTM-E1876) and for Resonant Acoustic Spectroscopy (ASTM-E2001).
- Designed for digitizing signals from electret acoustic sensors within a frequency range of 20 Hz to 22.5 kHz.
- Compatible with USB 2.0.
- Features a TRS P2 / 3.5 mm input connector.
- Equipped with a bicolor LED to indicate "ON" and "Recording" statuses.



Spectrum of a 22.5 kHz signal detected by the CA-DP and digitized by the ADAC+.



Calibratable with traceability to SI.



Typical configuration:

- Parts:

- Signal acquisition module ADAC.

- Optional items:

- CA-DP Acoustic Sensor;
- Calibration certificate.



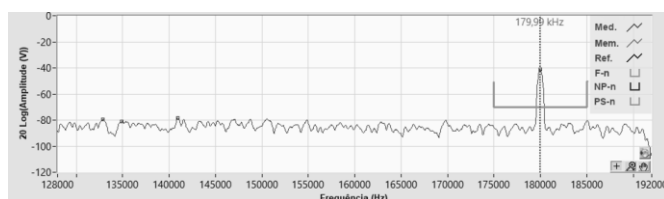
Specifications:

Model	USB48kHz
Manufacturer	ATCP Physical Engineering
Interface	USB
USB connector	Type A
Input connector	TRS P2 / 3.5 mm
Operating system	Compatible with Windows 11
Maximum sample rate	48 kHz
Resolution	16 bits
Signal to noise ratio (SNR)	92 dB
THD+N	0.01%
Frequency range	20 Hz - 22,5 kHz
Dimensions	50 x 25 x 15 mm
Weight	15 g
Working temperature range	10 - 40°C (50 - 104 °F)

Signal acquisition USB module ADAC+

Features:

- Developed for the Impulse Excitation Technique (ASTM-E1876) and for Resonant Acoustic Spectroscopy (ASTM-E2001).
- Designed for digitizing signals from electret acoustic sensors within a frequency range of 50 Hz to 192 kHz.
- Compatible with USB 2.0.
- Features a TRS P2 / 3.5 mm input connector.
- Equipped with a LED to indicate status.



Spectrum of a 180 kHz signal detected by the CA-DP-S and digitized by the ADAC+.



Calibratable with traceability to SI.

Typical configuration:

- Parts:

- Signal acquisition module ADAC+.

- Optional items:

- CA-DP-S Acoustic Sensor;
- CA-DP Acoustic Sensor;
- Calibration certificate.



ADAC+ coupled to an acoustic sensor.

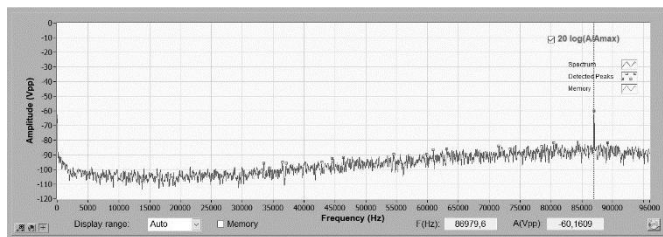
Specifications:

Model	USB192kHz
Manufacturer	ATCP Physical Engineering
Interface	USB
USB connector	Type A
Input connector	TRS P2 / 3.5 mm
Operating system	Compatible with Windows 11
Maximum sample rate	384 kHz
Resolution	12 bits
Signal to noise ratio (SNR)	72.2 dB
THD+N	0.03%
Frequency range	50 Hz - 192 kHz
Dimensions	75 x 35 x 15.5 mm
Weight	20 g
Working temperature range	10 - 40°C (50 - 104 °F)

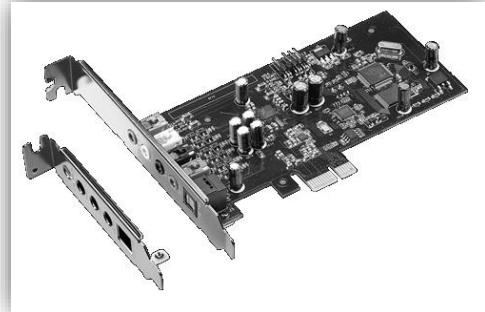
Signal acquisition PCIe card XONAR

Features:

- Compatible with Soneteste® Software.
- For digitizing signals from electret acoustic sensors in the frequency range of 20 Hz to 96 kHz.
- Compatible with desktop computers' PCIe interface.
- Input connector type TRS P2 / 3.5 mm.
- High signal to noise ratio (116 dB) and low distortion (0.0025%).



Sonelastic® Software displaying an 87 kHz signal detected by a CA-DP-S and digitized by the XONAR.



Typical configuration:

- Parts:

- Signal acquisition card XONAR.

- Optional items:

- CA-DP Acoustic Sensor;
- CA-DP-S Acoustic Sensor;
- Calibration certificate.



Calibratable with traceability to SI.

Specifications:

Model	Xonar SE
Manufacturer	ASUS
Interface	PCIe
Input connector	TRS P2 / 3.5 mm
Operating system	Compatible with Windows 11
Maximum sample rate	192 kHz
Resolution.....	24 bits
Signal to noise ratio (SNR)	116 dB
THD+N	0.0025%
Frequency range	20 Hz - 96 kHz
Dimensions	130 x 68 mm
Weight	60 g
Working temperature range	10 - 40°C (50 - 104 °F)

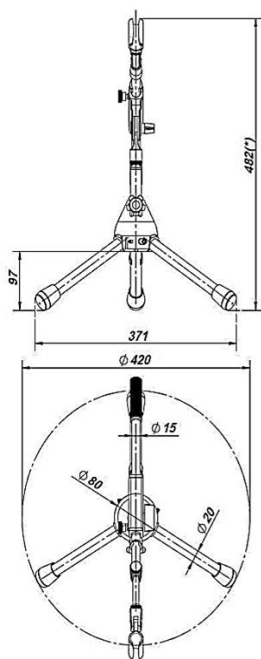
Sturdy Tripod

Features:

- Allows the CA-DP Acoustic Sensor and Medium RT Impulse Device positioning with 5 degrees of freedom.
- Isolates vibrations by combining massive elements with bumpers.
- Telescopic arm with adjustable length ranging from 42,5 to 72,4 cm
- Manufactured in carbon steel and injected aluminum with electrostatic painting.



Dimensions:



Typical configuration:

- Parts:

- Sturdy Tripod.

- Accessories:

- CA-DP Acoustic Sensor clip.

- Optional items:

- CA-DP Acoustic Sensor;
- CA-DP-S Acoustic Sensor.

Specifications:

Model	PRB
Degrees of freedom	05
Reach of the telescope arm	42,5 - 72,5 cm
Weight	3 kg
Working temperature range	10 - 40°C (50 - 104 °F)

Middle-sized Tripod

Features:

- Allows the CA-DP Acoustic Sensor and Medium RT Impulse Device positioning with 4 degrees of freedom.
- Telescopic arm with adjustable length ranging from 10 to 28 cm
- Manufactured in carbon steel and injected aluminum with electrostatic painting.



Typical configuration:

- Parts:

- Middle-sized Tripod.

- Accessories:

- CA-DP Acoustic Sensor clip.

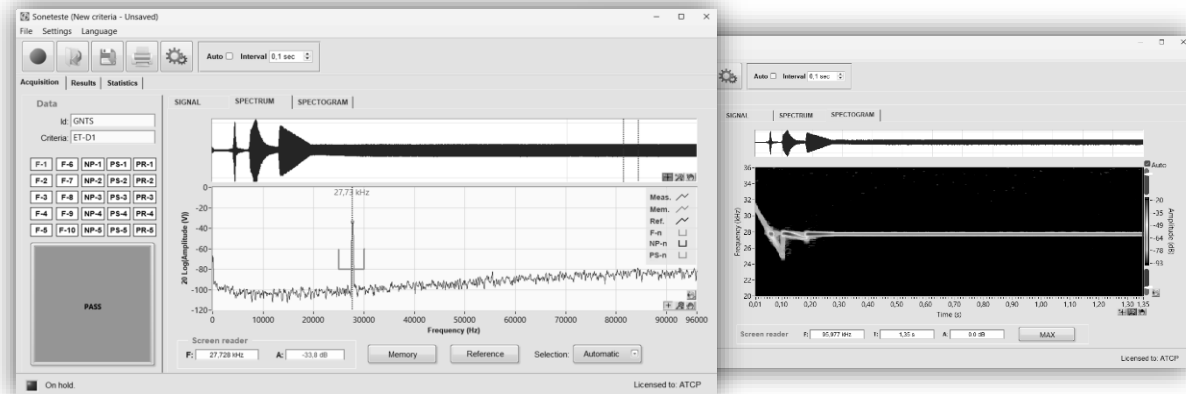
- Optional items:

- CA-DP Acoustic Sensor;
- CA-DP-S Acoustic Sensor.

Specifications:

Model	PM
Degrees of freedom	04
Reach of the telescope arm.....	10 - 28 cm
Weight.....	0.75 kg
Working temperature range	10 - 40°C (50 - 104 °F)

Soneteste® Software



Features:

- Developed for frequency analysis and Resonant Acoustic Spectroscopy (ASTM E2001).
- Compatible with the frequency range from 20 Hz to 192 kHz.
- Allows for monitoring ultrasonic welding machines, determining the frequency of ultrasonic washers, basic modal analysis, quality control through acoustic signature, frequency calibration of ultrasonic sources, as well as inspection and quality control of sintered parts and grinding wheels.
- Enables analysis of signals in the time and frequency domains and via spectrogram.
- Offers 25 programmable judgment criteria, with refinement aided by statistical analysis.
- Generates results reports in PDF format and exports compiled data to spreadsheets.
- Compatible with Windows 11.
- Developed by ATCP Physical Engineering.

Computer DELL Inspiron Desktop



Features:

- Full compatible with Soneteste® Software.
- Processor i3, 8GB RAM and 512GB SSD.
- Reliable and cost-effective.

Specifications:

Model	Inspiron Small Desktop or equivalent
Manufacturer.....	DELL
Processor.....	Intel® Core™ i3
Graphic card	UHD Intel® Graphics
HD	512 GB SSD
Keyboard.....	Wired BR
Mouse	Wired Black
Wireless	802.11ac (WiFi 2x2) + Bluetooth 5.0
Dimensions	29 x 9.3 x 29.3 cm
Weight	3.5 kg
Working temperature range	10 - 40°C (50 - 104 °F)

Computer DELL Inspiron Laptop



Features:

- Full compatible with Soneteste® Software.
- Processor i3 or AMD Ryzen 5, 8GB RAM and 256GB SSD.
- 15.6-inch full HD screen (1920x1080).
- Reliable and cost-effective.

Specifications:

Model	Inspiron 15 or equivalent
Manufacturer.....	DELL
Processor.....	Intel® Core™ i3
RAM memory.....	8 GB
Graphic card	AMD Radeon™ Vega 8 or equivalent
HD	256 GB SSD
Wireless	802.11ac (WiFi 2x2) + Bluetooth 5.0
Dimensions	35.8 x 23.7 x 1.75 cm
Weight	1.7 kg
Working temperature range	10 - 40°C (50 - 104 °F)