PLACID
PLACID INSTRUMENTS

ACCURATE & EASY TO USE

Discover a wide selections of our
sound measurement equipments according to your
sound measurement needs

SMART INTEGRATING SOUND-LEVEL METER/DATALOGGER
PNSRT Mk.3

PLACID PNSRT Mk.3

SMART INTEGRATING SOUND-LEVEL METER/DATALOGGER

SPECIFICATION

PNSRT Mk.3 is the third generation of PLACID Instrument's smart integrating sound-level meter/datalogger. It includes a type 1 digital MEMS microphone, an accurate date/time clock, a non- volatile 128 Mb recording memory with fast USB download.
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Running on battery, it can record sound pressure levels for a week. Connected to an external USB charger it can record and report for months. Its very small size allows it to be attached to or embedded within the monitored equipment.

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New Calibrated Instruments for Registering Noise and Vibration

FEATURES

- Type I precision
- A, C and Z weighting curves.
- Integrating Sound-Level Meter, records L-max, L-min and Leq levels.
- Log interval adjustable from 125 ms (8 points per second) up to hours.
- Individual Manufacturer's Certificate of Calibration from Convergence Instrument provided with every instrument purchased.
- Digital very sensitive MEMS microphone (30 dBA typical noise floor)
- Completely sealed weatherproof enclosure designed for outdoors applications. Now includes an ePTFE membrane that seals the microphone against dust and water.
- All-digital design.
- Ultra-stable sensitivity (field recalibration is easily done, but seldom required)
- Very low sensitivity variation due to temperature changes
- Very low sensitivity to vibrations
- Software function calculates global Leq and/or dose, according to ISO and OSHA methods.
- Adjustable response time.
- Preprogrammed recording start date/time.
- Integrated oscilloscope function that can show the acoustic signal in real time.

- Integrated spectral analyzer function that can show the spectrum (or 3rd-octave bands) in real time.
- Can be used as a high-quality USB digital microphone
- Allows the observation of recorded levels while the recording is ongoing.
- Works standalone, or USB connected.
- Long life internal rechargeable battery that recharges from USB and most USB chargers.
- Can be field-calibrated.
- Observes and records 100% of the acoustic signal (no missed samples).
- Editable individual custom ID for easier instrument management.
- All settings are stored in non-volatile memory. So the instrument will regain full functionality from hard-reset or battery loss.
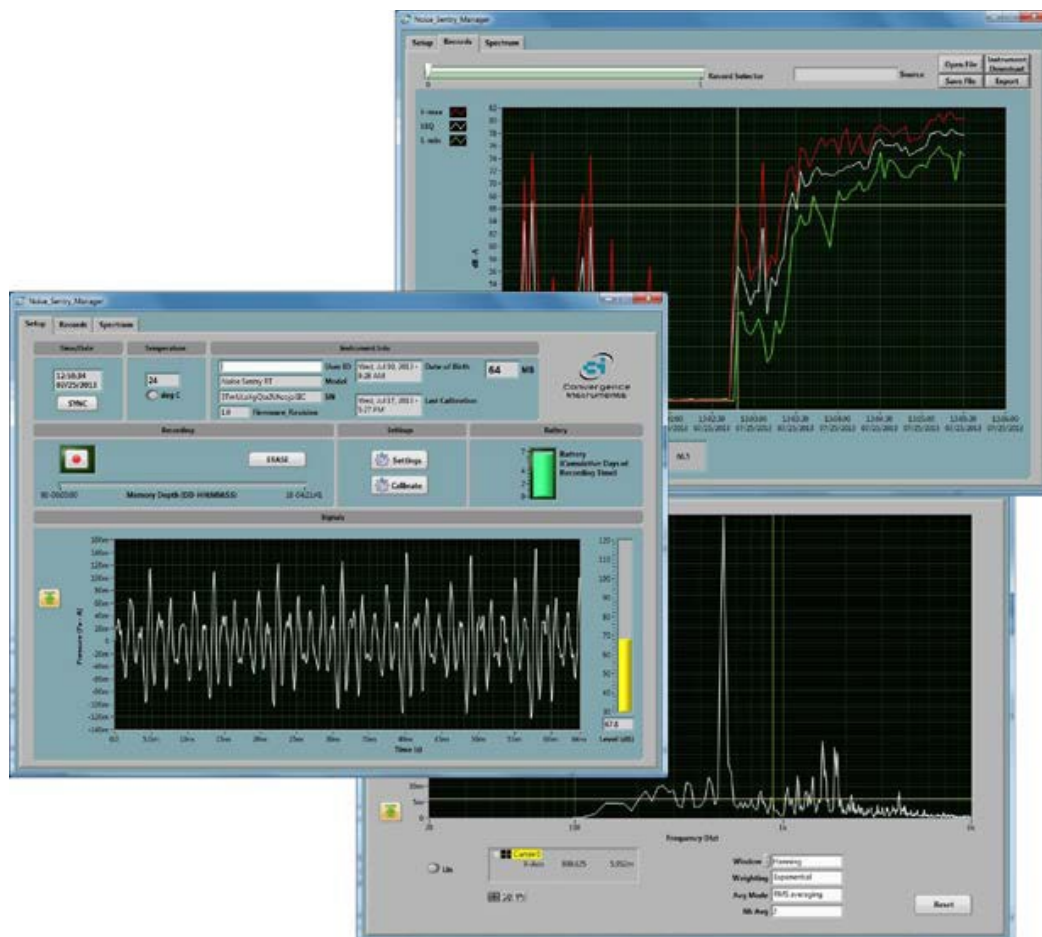
New Calibrated Instruments for Registering Noise and Vibration

APPLICATIONS 🎚

- Sound level and acoustic dose measurement and recording.

- Monitoring of safe working conditions.

- Activity detection and logging.

- Long-term measurement and recording of acoustic levels for environmental impact studies.

- Specially designed for long-term outdoors applications.

DATASHEET PLACID PNSRT Mk.3

Bandwidth	20 Hz to 20 kHz
Microphone Sensor	Digital MEMS
Precision Class	Type I
Saturation Level (typical @ 1 kHz)	• 120 dB-A • 120 dB-C • 120 dB-Z
Temperature Error	Better than 0.6 dB (-20 degC < T < 60 degC)
Sensitivity to Vibrations	60 dB_{SPL}/g (20 dB lower than typical measurement microphone)
Weighting Curve	• dB-A • dB-C • dB-Z
Noise-Floor (Typical)	• 30 dB-A • 46 dB-C • 52 dB-Z
Recording Resolution	0.1 dB
Duty Rate of Signal Capture	100% - No Missed Samples
Min Log Interval	125 ms (8 points of Lmin, Lmax and LEQ per second)
Real-Time Spectral Display	2048-point Power Spectrum – dB or Lin Scale.
Calibration	Field-calibrated using a 94 dB 1/2" calibrator
Connectivity	USB
Battery Type	Integral Li-Poly - USB-Rechargeable
Recharge Time	2 H 30 (Typical)
Battery Autonomy (Full- Charge)	7 days while recording
Battery Life	> 300 Charge/Discharge Cycles

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DATASHEET PLACID PNSRT Mk.3

Temperature Range	-20 degC to 60 degC (-4 degF to 140 degF)
Recording Memory	Non-Volatile Flash Memory
Recording Memory Capacity (RT128 Model)	• 128 Mb • Ex: can continuously record Lmax, Lmin and Leq levels at 1s intervals for 32 days, or 10s intervals for 320 days.
Recording/Erasure Cycles	Greater than 100 000
Data Retention	Greater than 20 Years
Dimensions	• 19 mm x 42 mm x 160 mm • (0.75" x 1.65" x 6.25")
Weight	100 g
Construction	Weather-Proof Enclosure
Microphone Dust Protection	Expanded polytetrafluoroethylene (ePTFE) dust and water barrier

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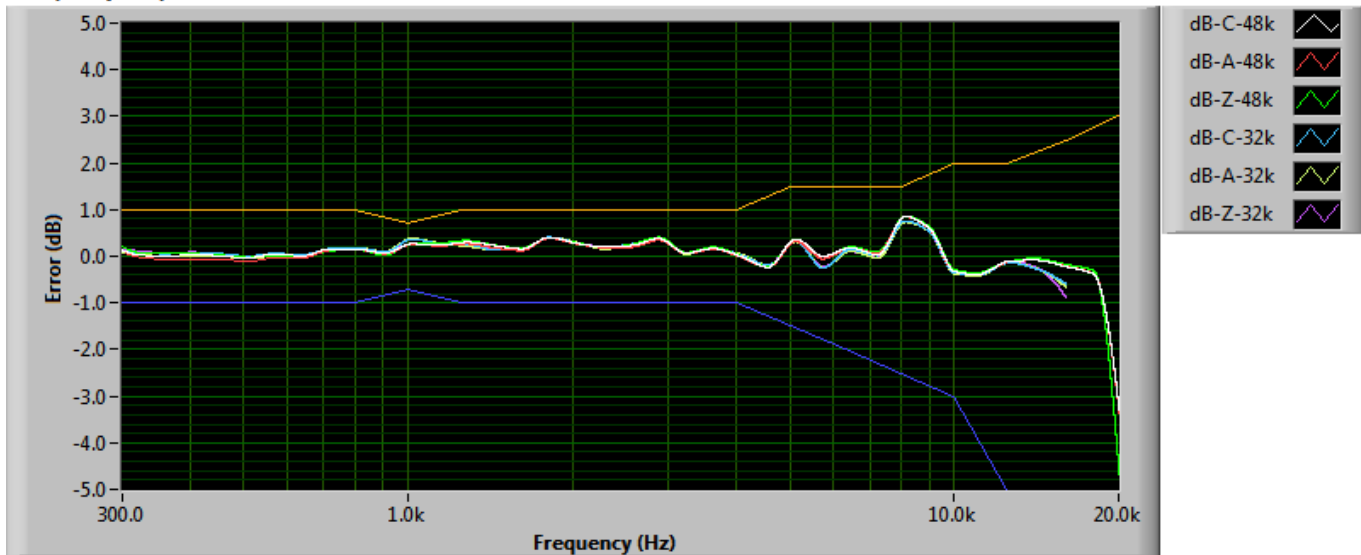info@placidinstruments.com ✉
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FREQUENCY RESPONSE

Picture below shows the typical spectral error in dB-A, dB-C and dB-Z, at 32 kHz and 48 kHz sampling rate, together with the type I limitlines.

Frequency_Response Error

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DIRECTIVITY
Picture below shows the directivity of the instrument as a function of frequency

Far field directivity $(P(r,\theta)/P(r,0))$ in transverse plane

Legend:
- 127 Hz
- 143 Hz
- 160 Hz
- 180 Hz
- 202 Hz
- 226 Hz
- 254 Hz
- 285 Hz
- 320 Hz
- 359 Hz
- 403 Hz
- 453 Hz
- 508 Hz
- 570 Hz
- 640 Hz
- 718 Hz
- 806 Hz
- 905 Hz
- 1016 Hz
- 1140 Hz
- 1280 Hz
- 1437 Hz
- 1613 Hz
- 1810 Hz
- 2032 Hz
- 2281 Hz
- 2560 Hz
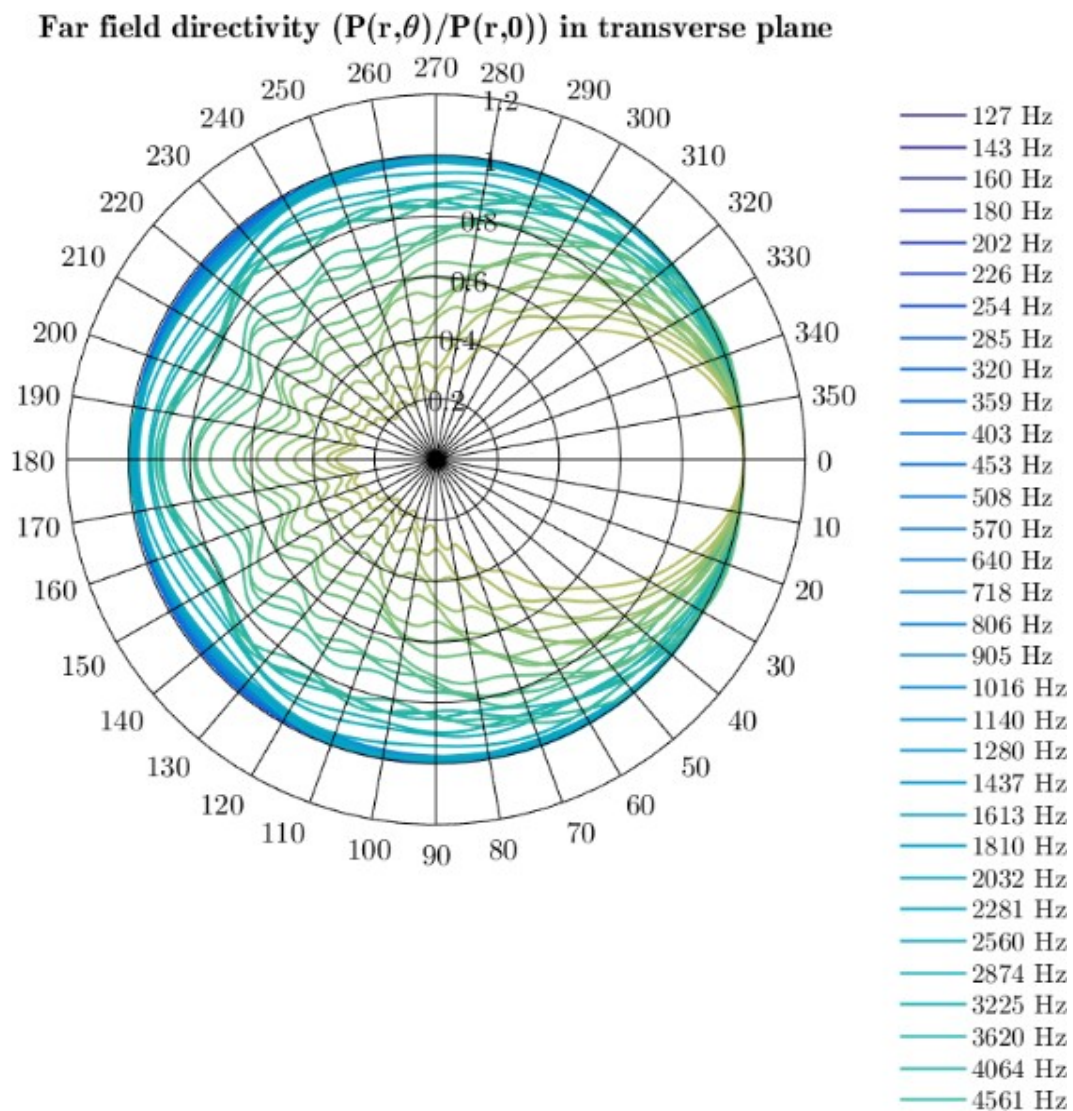- 2874 Hz
- 3225 Hz
- 3620 Hz
- 4064 Hz
- 4561 Hz

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INSTRUMENT MANAGER APPLICATION SPECIFICATIONS

CATEGORY	SPECIFICATION
Compatibility	Windows 7, Windows 8, Windows10
Supported Instruments	All in Sentry series
Configuration	• Full Instrument Configuration • Save and Recall Configuration Files
Display	• Real-Time Acoustic Signal • Real-Time Sound Level
Record Management	• Real-Time Spectrum • Recorded Sound Levels • Global Leq/Dose Calculation (ISO and OSHA methods) • Battery Level and Charge • All graphs can be viewed in dB or Lin scale • Record Manual Start/Stop • Record Programmed Start/Stop • Recording Memory Download (Even while recording) • Recording Memory Clear • Auto-Calculation of Memory Depth
Data Export	Export to Tab-Delimited Format for Use with Spreadsheet Applications

OTHER APPLICATION

APPLICATION	DESCRIPTION
Noise Sentry RT Community Noise Metrics	Application to calculate various noise metrics, such as CNEL, LDEN, and many others.
NSRT_Recorder	Allows the PNSRT Mk.3 to be used as a digital high-quality recorder.