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XPT801

SOUND LEVEL METER AND FREQUENCY ANALYSER

INTRODUCTION

XPT801 is the model, within the **Expert Line** sound level meter range, with a price-performance ratio optimized through a **light** set of features and performances matched with respect to the applications of interest.

It is based on a **scalable platform** that can be adapted to the growing requirements of acoustic professionals. The needs for accuracy, high performance and ease of use have been satisfied thanks to the use of the latest technologies and a careful evaluation of the suggestions of experts in the sector.
Features and performances are offered in a **light** version compared to the top of the range, to provide the acoustician with an instrument of excellent price-performance value but complete and reliable for applications of interest such as environmental noise, workplace noise exposure assessment, or diverse industrial and laboratory applications.

FEATURES

Compact and lightweight
Ergonomic design for one-hand operation allows easy transport and use in various locations, facilitating on-site noise assessments.

High versatility
Interchangeable microphones with auto-identification (Sensor Digital Interface)
Wide range of applications in a single upgradable device

Large Color Touch Screen Display
4.3” vibrant color touch screen display

Unyielding Durability
Rugged materials for harsh field conditions

Versatile Storage Options
Internal from 4GB on eMMC, µSD

Seamless Wireless Connectivity
Data transfer and remote control
Embedded Wi-Fi, 4G LAN, USB-C, RS232/485 interfaces

High Dynamic Range
Dynamic range exceeding 120dB

Long-lasting Battery Life
Internal rechargeable battery with smart power management
Supports more than 24 hours of continuous measurement campaigns

Automated Event Identification
Unattended noise monitoring with automatic audio recordings

Advanced Trigger and Logging Capabilities
Unique logging features and advanced trigger logic with exceedances detection on broad levels and spectrum masks

OPTIMISED PRICE-PERFORMANCE RATIO
Features and performances are offered in a light version compared to the top of the range

ENHANCED USER EXPERIENCE
User-friendly Interface
Intuitive user interaction through smartphone-like gestures; possibility to manage functionalities even with the use of 3 buttons keyboard.

CLASS 1 ACCORDING TO IEC 61672:2013
High precision and compliance with international standards ensure that the data collected is accurate and reliable, supporting compliance with regulations.

EASY CONFIGURATION
Reduce significantly complex onsite configurations using internal customizable or factory apps.

AT-A-GLANCE INFORMATION
The status bar provides immediate visual feedback on essential device statuses, reducing the need for users to navigate through menus.

FIRMWARE UPGRADES
Enhances device performance and stability.
Unlocks new features and functionalities.
Over-the-air (OTA) updates of firmware and new options.

Environmental Noise Assessment

Urban Noise Monitoring: Evaluate noise pollution in city environments to support urban planning and noise control measures.
Construction Site Monitoring: Measure noise impact on surrounding areas and ensure compliance with noise regulations during construction projects.
Residential Noise Studies: Assess and mitigate noise levels in residential areas to improve living conditions and public health.

Occupational Noise

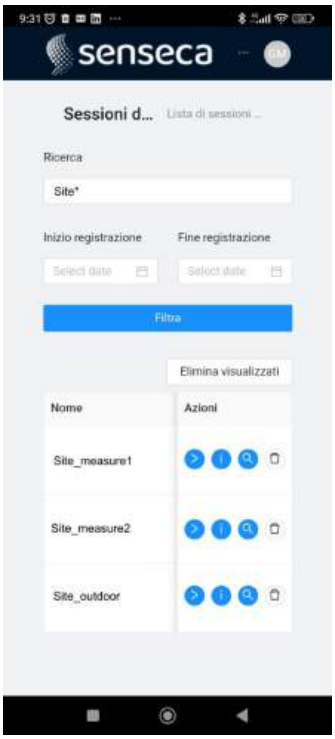
Noise Exposure Assessment: Helps in assessing noise exposure levels to protect public health and safety, particularly in workplaces and residential areas. Robust body design and operation even via keyboard in harsh environments
Industrial Noise Assessment: Monitor and manage noise levels in industrial settings to protect worker health and comply with regulations.

Product Noise Testing

Enhanced Product Quality: Ensures that products meet noise level standards, improving customer satisfaction and product quality.
Regulatory Compliance: Helps manufacturers comply with noise regulations ensuring smooth market entry.
Efficient Testing Process: Streamlines the noise testing process with real-time data, continuous monitoring, and comprehensive analysis tools.
Versatile Applications: Suitable for a wide range of products and testing environments, offering flexibility and adaptability.

Data management

Data stored in the new sound level meters XPT800 and XPT801 are manually archived* or automatically synchronized (only with Push option for XPT80x via Wi-Fi, Lan or 4G device) in the cloud service through the NS Storage web application.
Data stored and organized in workspaces protected by access credentials can be viewed by the workspace owner as graphs and tables through any device equipped with a web browser connected to the Internet and can be exported in text format.
Workspace owners can share their data with any user by assigning, for example to a collaborator, specific (revocable) permissions for the use of one or more workspaces.
The data in the workspaces are directly accessible through the NS-ENS software and can be downloaded and archived locally for analysis.
**Limited free storage space.*



NS Storage for mobile

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Technical specifications

Inputs	Microphone	**MC801**: Free field ½", 25 mV/Pa sensitivity; 0 V; IEC 61094-4 WS2F, 10 Hz-20 KHz. **MP801**: preamplifier, automatic detection of model and calibration data. SDI (Sensor Digital Interface). CTC automatic electric calibration
Measuring ranges	Dynamic range	> 120 dB
(with MC801 microphone, MP801preamplifier)	Linear Operating Range	A (1 kHz) 25 dB – 137 (140 pk) C 27 dB – 137 (140 pk) Z 30 dB – 137 (140 pk)
Frequency weightings		A, C + B or Z (user selection). 3 simultaneous
Time constants		Fast, Slow, Impulse, Peak simultaneous
Averaging		Linear, exponential, moving, max, min
Parameters*		Lp, Leq, LIeq, SEL, $L_{min/max}$, L_{peak}, Level diff. (*i.e. LCeq-LAeq*), LUp, LUeq (*User between two sel. bands*), LAFT, LAFTeq (*TaktMax*) , $Lp^{1/1}$, $Lp^{1/3}$, $Leq^{1/1}$, $Leq^{1/3}$, Ln (*0.1%-99.9%*), pL **For more details about measurement parameters see user manual*
Spectral Analysis	Octave	Real time, 1/1 octave, 32 Hz to 16 kHz, IEC 61260-1:2014 Real time, 1/3 octave 10 Hz to 20 kHz, IEC 61260-1:2014
Noise Criteria		NC, NR, RNC, RC
Statistical Analysis		Broad band: 7xLn selectable percentile levels (0.1%-99.9%). Probability/Cumulative distribution.
Audio	Recording	Mode: continuous, manual or event triggered. Resolution 16, 24, 32-bit. Audio-band: 10, 20 KHz. Format: Wave or compressed (ADPCM [1])
	Line out	Microphone input on 3.5 mm jack
Measurement Control		Start, stop, pause, reset, back-erase, continue, event marking, manual audio recording. Measure timer from 1 s to 23:59:59 hrs
Calibration	Acoustic	Manual or automatic (tone detection). Calibrations history: date/time, dB correction. Free Field, Random Incidence, environmental and shield corrections
Triggers	Broad band	Single or multiple (OR/AND) on broad-band levels, levels difference, Ln
	Spectra	On 1/1 or 1/3 oct. masks. *Single - All* bands mode. Max, min thresholds editable (man or json file)
Storage	Physical	Embedded 4GB eMMC and up to 64 GB µSD (TBA)
	Cloud	Upload to cloud storage service (NS-Storage). Manual or automatic (Push)
	Archive	List, preview and plots with zoom function of stored data. Manual data upload on NS-Storage cloud service.
Datalogging		Time history: independent Standard, Report steps. Standard: 100/200/500 ms/1 s. Reports: 10/20/30 s, 1/2/5/10/20/30/60 m Events: triggered broad-band, octave, Ln values Globals: Continuous, Daily integrations

Notes (for more information contact sales department):
- some hardware and firmware features may be subject to the purchase of specific options.
- some features and applications may be under development (planned) and available later (TBA)
- specifications may be subject to change without notice.

[1] *Planned functionality*

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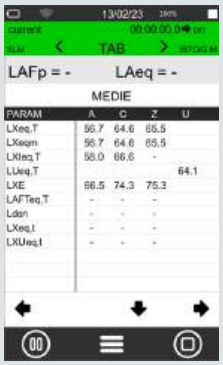
Views	SLM	6 user selectable parameters with easy-to-read numbers; Levels difference (selectable); Bar graph of 3 broadband levels; Alarms display on exceedances
	Table	Broad-band parameters, weightings & time const. all in parallel: Inst., Average, Max-Min. 7 x Ln percentiles broad-band Spectrum: Inst, Min, Max, Avg Exceedances: ongoing exceedances; n° of occurrences (SLM, Markers, audio.)
	Frequency spectrum	Histograms: up to 4 selectable. Values @cursor position. Overall A, C, Z, User 1/1 or 1/3 octave; Selectable linear or weighted spectrum; Time constants: Fast or Slow; Avarage: Lin Type: Inst, Avg, Max, Min, Rep-Avg, Rep-Max, Rep-Min, Evn-Avg, Evn-Max, Evn-Min
	Time history	Simultaneous display of up to 4 selectable parameters with display/hide feature. 1xAudio and 4xEvent-Marker as presence-coloured bars. 3xBroad-band values bars. Cursor with inst. level and time display.
	Statistics[1]	Probability/cumulative distributions plots.



Display		4.3" touch, 480x800 px, colour TFT, high brightness, sunlight readability. Auto brightness.
Keyboard		ON/OFF/MENU key with RGB backlight; Function keys (2x); Multi-colour Status Indicator.
Battery	Type	Rechargeable battery pack, Li-Ion polymer, 9000 mAh. PCM circuit for battery protection
	Operating time	> 24h
Wireless	Wi-Fi	Embedded Wi-Fi module (IEEE 802.11 b/g/n), for web communication and time sync
	GSM[1]	Embedded 4G-LTE modem module for web communication and time sync
Hardware interface	USB-C	USB-C, CD (Communication Device)
	Ethernet	RJ45 10/100 Ethernet for web communication and time sync
	Aux	RJ12: auxiliary connector for external devices as Meteo stations (Meteo interface[1])
	Audio I/O	3.5 mm 4-pin audio jack: audio I/O and trigger I/O
Localization	GPS[1]	Location tracking, time synchronization
Physical		Dimensions: 304x86x38 mm. Weight: 505 g (incl. batteries). Dust and water-resistant case (IP Rating pending). Standard ¼" tripod mount thread.
Language		English, Italian (others TBA)
System	Status bar	Battery, GPS, Wi-Fi/Lan/4G conn., Cloud conn.level, uload/dload, notifications, date/time, active storage media, remaining storage, overload/underload, audio recording, active measurement mode
	Monitor	Battery level [%], device temp [°C], pressure [hPa], charge voltage, pre temp [°C]
	Fw/Options upgrade	Via USB connection or Over-the-air (OTA)[1] updates of firmware and new options.
Acoustic standards	IEC	Sound Level Meter IEC 61672-1 (2013) class 1 IEC 60651 (1979) plus Amendment 1 (1993-02) and Amendment 2 (2000-10), type 1 IEC 60804 (2000-10) type 1 Octave and fractional octave band filters IEC 61260-1 (2014)
	ANSI	Sound Level Meter ANSI S1.4-1983 plus ANSI S1.4A-1985 Amendment type 1 (sound level meter) ANSI/ASA S1.4-2014 class 1 ANSI S1.43-1997 type 1 Octave and fractional octave band filters ANSI/ASA S1.11-2014 Part 1
Software	Desktop	Noise Studio NS-ENS: environmental noise analysis
	Web applications	Noise Studio NS-Storage: storage and display of measurement data Noise Studio NS-Monitor [1]: remote management of compatible devices

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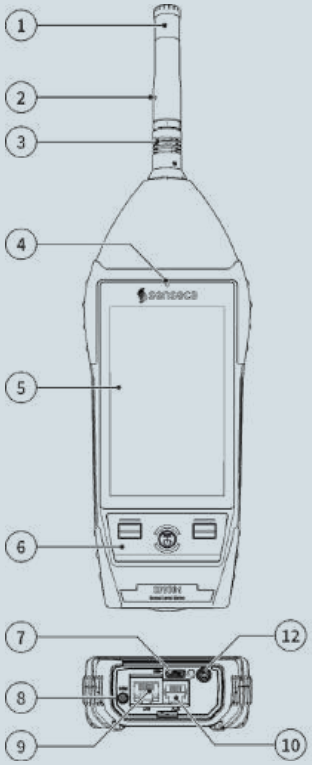
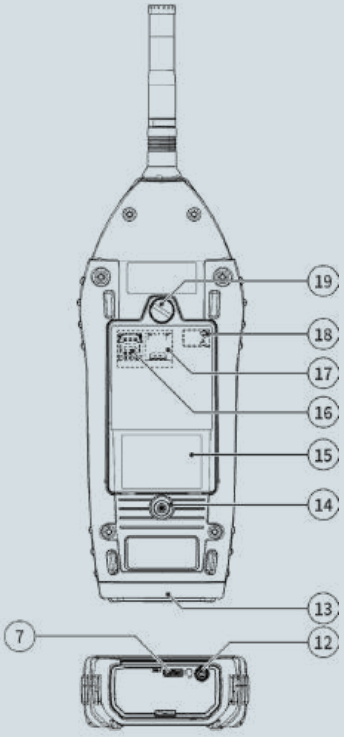


XPT801 with OH3A hardware option connector panel



XPT801 base version connector panel

1 Microphone capsule
2 Preamplifier
3 Push-pull connector
4 Light sensor
5 Touch Display
6 Keyboard
7 USB-C connector
8 GSM external antenna connector (optional)
9 LAN socket (optional): RJ45 type connector
10 AUX (optional): connector RJ12 type, for connection to external devices
12 Connector for audio output/filtered trigger I/O: Ø 3.5 mm jack socket
13 Rubber protection for connectors
14 1/4" threaded hole for stand
15 Battery compartment
16 SIM slots (TBA)
17 Micro SD card slot (TBA)
18 Battery connection
19 Battery compartment opening/closing screw

Ordering codes

XPT801 Sound Level Meter can be ordered as base model and additional functionalities can be added later as retrofit.

XPT801	Class 1 sound level meter, including WS90 windshield, standard small carrying case, USB-C cable, conformity certificate
Included in base model	
XPT801-OH1L	MC801 microphone (25mV/Pa) + MP801 preamplifier set
XPT801-OF3	Statistic analyzer
XPT801-OF8A	Event Detector
XPT801-OF13B	Advanced datalogger
NS-STORAGE	NS-Storage web service
Additional hardware options	
XPT801-OH1	MP800-MC800 microphone set
XPT801-OH3A	Monitor module
XPT801-OH4	Outdoor measurements, CIC management, preamplifier heater power supply
Additional firmware options	
XPT801-OF1	1/1 + 1/3 Octave bands Advanced Spectrum analyzer
XPT801-OF1A	1/1 Octave bands Spectrum analyzer
XPT801-OF4	Audio Recording
XPT801-OF5S	Push Automatic data upload
XPT801-OF9	Noise Ratings calculation
Desktop / web applications	
NS-ENS	"Environmental Noise Studio" desktop application module
Accessories	
HD2020	Class 1 sound calibrator
WSO	Outdoor microphone protection
CPL-4...	Microphone extension cable. Available length 5 or 10 m.
Upcoming releases	
XPT801-OH3M	*4G network module with GPS*
XPT801-OF5A	*Measure Monitor web service*
XPT801-OF13M	*Meteo parameters datalogger*

V 1.1

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