



SCARLET | TECH

Professional Class 1 Sound Level Meter

ST-12D



- IEC 61672-1: 2013 Class 1
- Easy-to-use interface
- Precise audio recording
- 2.4" full-color display
- Synchronous multi sound analyzers
- Leq value with A/C/Z frequency weightings

Overview

ST-12D is a professional Class 1 sound level meter designed for accurate and reliable noise assessment in environmental monitoring, workplace safety, and regulatory compliance.

Key Features:

- IEC 61672-1: 2013 Class 1
- 64 GB memory for data logging
- Audio recording in MP3/WAV
- 1/1 or 1/3 OCT band analysis (optional)



Full-Spectrum Sound Measurement

Integral Analysis

- $L_{xy,p}$, $L_{xy,max}$, $L_{xy,min}$, $L_{x,eq,T}$, $L_{x,eq,t}$, $L_{x,peak}$, $L_{x,E}$, E
- $X = A, C, Z$
- $Y = F, S, I, I10$

Exposure Analysis

- E , TWA, L_{ex} , 8h, L_{avg} , DOSE

Statistical Analysis

- $L_{xy,p}$, $L_{xy,max}$, $L_{xy,min}$, $L_{x,eq,T}$, $L_{x,E}$
- LN (N = 1~99): L5, L10, L50, L90, L95, SD, Ldn, Ld, Ln

1/1 or 1/3 OCT band Analysis (Optional)

- $L_{xy,p}$, L_{max} , L_{min} , L_{eq} , T
- Center frequency range: 10 Hz ~ 20 kHz

Build for Professional Noise Assessment



Instant Data Printing

Portable thermal printer provides instant noise reports for inspections



PC Software Analysis

ScarletSound PC software enables analysis of measurements, review of trends, and data export.



Outdoor Monitoring

The waterproof monitoring kit supports continuous outdoor noise measurement surveys.

| Data Storage & Management



Audio Recording

Record sound in MP3 or WAV format, adjustable sampling rates (12 kHz, 24 kHz, 48 kHz), to provide evidence, playback events, and support detailed analysis

Large Memory

Internal 4 GB and up to 64 GB via SD card, allow long-term data logging for extended noise surveys and monitoring projects.

Data Export & Connectivity

USB-C and serial connections make it easy to transfer data to computers with ScarletSound PC software or integrate the device into existing systems.

Long Battery Life

Designed for full-day operation with 4 AA batteries or with external USB-C power support.

| Applications



Environmental Noise Assessment

Accurately measure ambient noise levels to help identify and mitigate noise pollution.



Outdoor Monitoring

Durable setup protects the device from harsh weather conditions and ensures obstacle prevention.



Public Noise Display

Connects to LED signage, allowing everyone to easily notice when noise levels exceeded.

Package Contents

- ST-12D Class 1 sound level meter
- Windscreen
- USB-C cable
- RS232 cable
- AA batteries
- Calibration certificate
- User manual
- Waterproof carrying case



Optional Accessories

	Class 1 Sound Calibrator	<ul style="list-style-type: none">• IEC 60942 Class 1 / ANSI S1.40-1984 standards accuracy• For 1/2" condenser microphone calibration• Stably output sound level at 94dB & 114dB
	Portable Thermal Printer	<ul style="list-style-type: none">• Thermal printing of measurement results• Supports wireless pairing with ST-12D via Bluetooth or cable
	Microphone Extension Cable	<ul style="list-style-type: none">• Available in 2.5m & 5m lengths• Allows the microphone to be positioned away from the meter• Fits between the meter top and the preamplifier
	Outdoor Kit	<ul style="list-style-type: none">• Ideal for long-term outdoor noise monitoring• IP65 waterproof handy case keeps the SLM protected• Content includes: outdoor windshield, power bank, microphone extension cable

Specifications

Model	ST-12D
Fulfil Standard	IEC 61672-1: 2013 Class 1
Dimensions	250 × 76 × 33mm
Weight	340 g
Display	2.4-inch 240 × 320 pixel full-color display Adjustable brightness & backlight can be turned off.
Display Resolution	0.1 dB
Refresh Rate	0.5 s
Main Parameters of Measurement	LXYp, LXYmax, LXYmin, LXeq, LXeq,T, LXeq,t, LXpeak, L5, L10, L50, L90, L95, SD, Ld, Ln, Ldn, SEL, LXE, E, TWA, Lex, 8h, LAVG, DOSE X = A, C, Z Y = F, S, I, I10
Measurement Range	25 ~ 140 dB (143 dB C Peak)
Accuracy	± 0.5 dB
Frequency Range	10 Hz ~ 20 kHz
Frequency Weighting	A, C, Z
Time Weighting	F, S, I, I10
Integrating Time	1s ~ 99 h 59 m 59 s
Audio Recording	Record noise data in MP3/WAV format Synchronize/Trigger mode Sampling rate: 12 kHz, 24 kHz, 48 kHz / 16 bit, 24 bit
Storage Capacity	4 GB internal memory 64 GB SD card
Output Interface	AC/DC signal (analog) UART Serial (RS-232) USB Type-C (structured data in JSON format) Bluetooth (for portable printer)
Power Supply	4 x AA alkaline batteries External power supply (USB type-C adapter): 5V, 1A
Operation Time	Max 24hrs by 4 x AA alkaline batteries (The operation time varies depending on the device settings and battery type)
Operation Environment	Working temperature: -20 ~ 60 °C Relative humidity: 20% ~ 90%



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