

2025 ALL NEW



SCARLET | TECH

IEC Standard Occupational Noise Dosimeter

ST-591



**Keep Employees Safe From
Noise Hazards Where It Matters Most**

- IEC 61252-1 2017 Standard
- IP65 Ingress Protection
- Available in 5-unit bundle kit
- 1 sec - 99 hrs Adjustable Measurement Time
- Data Logging & Audio Recording
- Real-Time 1/1 OCT & 1/3 OCT Analysis

Introduction

ST-591 noise dosimeter is the front-line protection for workers exposed to threats of long-term noise exposure. This dosimeter is small, lightweight, and cable-free, allowing it to be worn on the shoulder close to the ear for personal noise monitoring throughout the workday.

The ST-591 is designed in compliance with IEC 61252:2017 and ANSI S1.25-1991 standards for personal noise dosimeters. It also supports 1/1 and 1/3 octave band analysis, offering deeper insights into noise frequency distribution. The device simplifies daily noise monitoring without the need for a full-time noise assessor on site. The ST-591 is available in a 5-unit bundle kit to support multi-worker noise assessment programs.



Performance

- Complies with IEC 61252-1:2017, 61672-1:2013 Class 2, and 61260-1:2014 Class 2
- Supports 1/1 & 1/3 octave band analysis
- Measures with two independent settings simultaneously

Durability & Design

- Lightweight & compact
- IP65 ingress protection for use in harsh environments
- Full-color display

Data Logging & Connectivity

- 64GB large storage for data logging and audio recording
- USB-C port for data export & charging

Compatible with Multiple Standards

ST-591 accommodates various occupational noise standards, including OSHA, NIOSH, MSHA, and ACGIH, and EU Directive 2003/10/EC. It evaluates the same noise exposure using two different parameter sets, each with its own exchange rate, threshold, and criterion level. Results are displayed through a dual-channel interface on the device.



Noise Data Management on PC

ScarletSound is free software for ST-591 device, enabling noise exposure assessment through your PC. It offers data log management, review of 1/1 & 1/3 OCT analysis, access to recorded audio, and export noise data for further review and analysis.



Package List

- ST-591 Noise Dosimeter
- Windscreen
- USB-C cable
- Shoulder strap
- Calibration certificate
- User guide
- Waterproof carrying case



Available in 5-Unit Set

The ST-591 is available in a 5-unit bundle kit to support multi-worker noise assessment needs. The kit includes all accessories for each device, with a 5-bay charging dock keeping all units powered and ready between shifts, packed in a waterproof carry case.



Specifications

| Item | Description |
|---|---|
| Fulfil Standard | IEC 61252:2017, IEC 61672-1:2013, IEC 61260-1:2014 |
| Measurement Range | 51 ~ 142 dB (A, C); 56 ~ 142 dB (Z); (68 ~143 dB C Peak) |
| Exposure Analysis | E, TWA, Lex, 8h, LAVG, DOSE, Kurt |
| Frequency Range | 20 Hz ~ 12.5 kHz |
| Profile & Measurement Chanel | Dual channel configurable with time constants |
| Integrating Analysis | $L_{xy,p}$, $L_{xy,max}$, $L_{xy,min}$, $L_{x,eq,T}$, $L_{x,eq,t}$, $L_{x,peak}$, SEL (L_xE), $NL_{x,peak}$ |
| Statistic Analysis | $L_{xy,p}$, $L_{xy,max}$, $L_{xy,min}$, $L_{x,eq,T}$, SEL (L_xE), LN (N=1~99) : L5, L10, L50, L90, L95, SD |
| Octave Band Analysis | 1/1-octave: 22 Hz to 11.3 kHz ; 1/3-octave: 18 Hz to 14 kHz 56 ~ 142 dB (Z) |
| Audio Recording | Record noise data in WAV format Synchronize/Trigger mode Sampling rate: 12 kHz 16bit, 24 kHz 16bit, 48 kHz 32 bit |
| Datalogging | Supported |
| Display | 1.3-inch, 240 × 240 pixel full-color display Adjustable brightness & backlight can be turned off |
| Output Interface | USB Type-C (structured data in text file format) |
| Power Supply | Built-in rechargeable battery External power supply (USB type-C adapter): 5V, 1A Charing time: < 4 hours |
| Operation Time | Over 13 hours on a fully charge (Operation time may vary depending on device settings) |
| Dimensions | 90 × 49 × 64 mm |
| Weight | 119 g |



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