



SCARLET TECH

- IEC-61672-2002 Class 1
- 1/1 & 1/3 octave band filter
- 10 Hz...20 kHz frequency range
- 25 dB...140 dB measurement range
- Modularize design provides 4 sub models

ScarletSound™

ST-105

Best cost-performance ratio  
Class 1 Sound Analyzer



## Meter vs. Analyzer

A sound level meter is a device that allows you to determine the acoustic intensity and to measure the sound pressure level, but does not necessarily determine levels of sound in relation to tolerance of the human ear. Scarlet Tech ScarletSound™ sound level meters are suitable for professional application, including measurement of sound at work and environmental sound measurement.

Sounds analyzers provide octave bands analysis to help Safety Manger identify exactly noise sources easily by looking into the most relevant frequency components. The frequency domain information is based on DSP technology. ScarletSound™ ST-105 is the one you need.

## Class 1 vs. Class 2

Sound level meters are divided into two “classes” which both have the same functionality, but different tolerances for error. Class 1 instruments have a wider frequency range and a tighter tolerance than a lower cost, Class 2 device. This applies to both the sound level meter and its associated acoustic calibrator.

ScarletSound™ ST-105 series adopts microphones complied with IEC-61672-2002 & IEC-61260-1995 Class 1 and is designed for Safety Managers to help them conduct effective and accurate workplace noise measurements. ST-105 sound level meters range from the basic to advanced models with low cost.



## Features

- Wide frequency range 10 Hz...20 kHz
- Wide measurement range 25 dB...140 dB
- Wide dynamic range 90 dB
- USB on-the-go. Can transfer data to USB stick easily
- 1/1 & 1/3 octave band real time analysis
- Statistic analysis & integral measurement
- Parallel A/C/Z & Fast/Slow/Impulse measurement

## Octave analysis

- Real time 1/1 & 1/3 octave spectral analysis of noise
- Parallel A/C/Z weighting
- Analysis is realized by digital filter ( $G = 2$ )
- Noise exposure measurement range 0...65.535 Pa2h

## Application area

- Noise at work
- Occupational & industrial hygiene
- Machinery noise measurement
- Vehicle noise measurement & testing
- Construction noise measurement
- Entertainment noise measurement

## Modularization

ST-105 series is designed by dividing major functions into modules. By installing different modules, ScarletSound™ provides experts the most flexibility to choose the functions they really need.

- 1/3 octave band module
- 1/1 octave band module
- Statistic analysis module
- Data logger module

## Models

ScarletSound™ ST-105 has already integrating 4 sub models to meet most of applications.

- ST-105L only 1/3 octave band module
- ST-105S only statistic analysis module
- ST-105 1/1 & 1/3 octave band & statistics analysis
- ST-105D ST-105 plus data logger module

# Technical specification

|                                     | 105D  | 105 | 105S | 105L |
|-------------------------------------|---|-----|------|------|
| <b>Measurement</b>                  | Lp, LAFp, LAFmax, LAFmin, LAF5, LAF10, LAF50, LAF90, LAF95, SD, LAeq1s, LAeqT, LD, LN, LDN, LAE, LCpeak   |     |      |      |
| <b>Statistic analysis</b>           | •   | •   | •    |      |
| <b>24 hr measurement</b>            | •   | •   | •    |      |
| <b>Integrating</b>                  | •   | •   | •    | •    |
| <b>1/1 octave</b>                   | •   | •   |      |      |
| <b>1/3 octave</b>                   | •   | •   |      | •    |
| <b>128 record storage</b>           |   | •   | •    | •    |
| <b>12288 record storage</b>         | •   |     |      |      |
| <b>Auto store</b>                   | •   |     |      |      |
| <b>Auto measuring</b>               | •   |     |      |      |
| <b>IEC-61672-1-2002 Class1</b>      |   |     |      |      |
| <b>IEC-60651:1979 Type 1</b>        | •   | •   | •    | •    |
| <b>IEC-60804:2000 Type 1</b>        |   |     |      |      |
| <b>IEC 61620-1-1995 Class1</b>      | •   | •   |      | •    |
| <b>Display</b>                      | LCD with backlight (240 x 160 dots). Refresh rate: 1 Hz for readings, 10 Hz for graph   |     |      |      |
| <b>Microphone</b>                   | 1/2" pre-polarized condenser microphone w/ built-in preamplifier.<br>Sensitivity 50 mV/Pa. Frequency response 10 Hz...20 kHz. Heat noise < 16 dB(A) |     |      |      |
| <b>Measurement range</b>            | 25...140 dB (A), 30...140 dB (C), 35...140 dB (Z)   |     |      |      |
| <b>Dynamic range</b>                | > 90 dB   |     |      |      |
| <b>Background noise</b>             | < 13 dB(A), 15 dB(C), 25 dB(Z)  |     |      |      |
| <b>Maximum peak</b>                 | 50...143 dB   |     |      |      |
| <b>Time constant</b>                | Fast/Slow/Impulse/PeakC+/PeakC-   |     |      |      |
| <b>Frequency weighting</b>          | A/C/Z   |     |      |      |
| <b>Range gain</b>                   | -10 dB, 0 dB, 10 dB, 20 dB, 30 dB, 40 dB  |     |      |      |
| <b>Range error</b>                  | < 0.1 dB  |     |      |      |
| <b>Self-generated noise voltage</b> | < 4 uV (1 Hz...23 kHz)  |     |      |      |
| <b>Measuring voltage range</b>      | 15 uV...10 Vrms   |     |      |      |
| <b>Sampling frequency</b>           | 20.8 us (48 kHz)  |     |      |      |
| <b>Boot time</b>                    | < 10 seconds  |     |      |      |
| <b>Interface</b>                    | USB 1.1 & 2.0 compliance, mini B type. Support OTG up to 8 GB   |     |      |      |
| <b>Power</b>                        | 4 x LR6 1.5V alkaline batteries   |     |      |      |
| <b>Dimension</b>                    | 285 x 90 x 39 mm (L x W x H)  |     |      |      |
| <b>Weight</b>                       | 500 g (batteries included)  |     |      |      |

Environmental conditions: 23°C ± 5°C, relative humidity < 80%



SCARLET TECH

[info@scarlet.com.tw](mailto:info@scarlet.com.tw)

[www.scarlet.com.tw](http://www.scarlet.com.tw)

+886-2-2325-7712

