



Integrating Measurements Robust Capability

The Sound Examiner SE-400 series of sound meters are engineered to accurately measure noise levels in highly variable environments. These advanced instruments compute the average sound pressure level (L_{EQ}/L_{AVG}) over the run time, helping you to more accurately assess occupational and environmental noise levels.

Sound Examiner SE-400 Series features:

- Variable, user-selectable data logging intervals with user-determined measurement parameters
- Long battery life
- All models ship ready-to-use, no setup necessary



Sound Examiner SE-400

Features

Rugged Design: Water resistant and dust-proof designs (IP65 rated)* with an ergonomic soft grip

Parameters including: SPL, L_{Max} , L_{Min} , L_{Pk} (peak), $L_{EQ/LAVG}$, Elapsed Time. Use 3M™ Detection Management Software (DMS) to interpret data files

Display Languages: English, Spanish, German, French, Italian, Portuguese, Simplified Chinese and Korean

Memory Capacity: 2 MByte

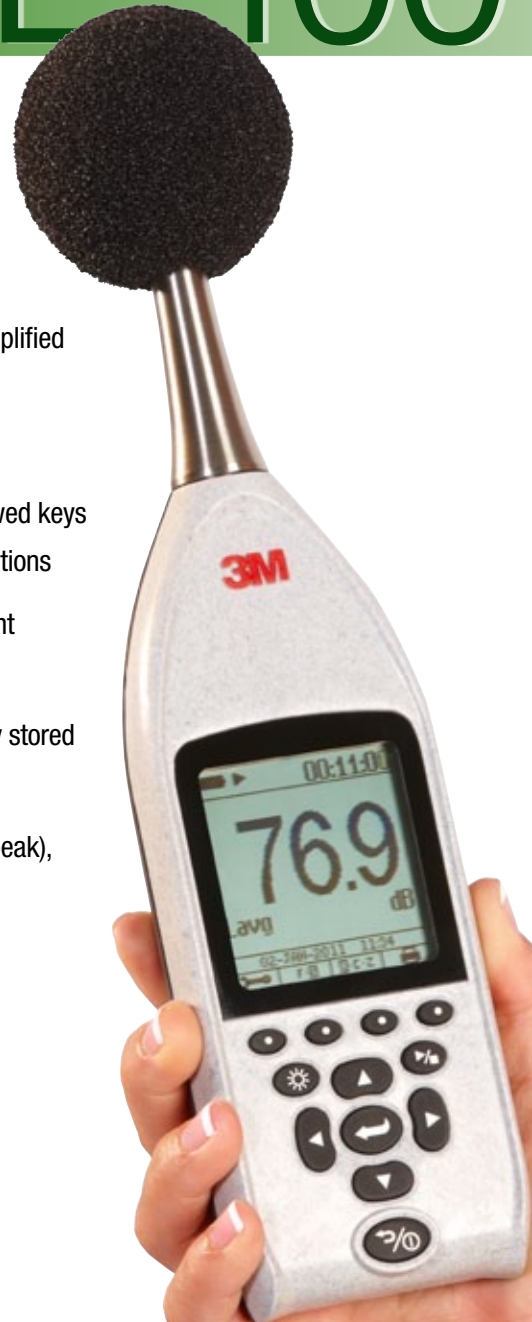
User Interface: 12 Keypad Keys: Run/Stop, On/Off/Esc, Enter, Backlight, 4 arrowed keys (up, down, right, left), Menu Driven, 4 Softkeys provide quick access to menu options

Display: Transflective 128 x 128 pixel resolution with LED backlighting. Backlight modes include low and high intensity

Calibration: Manual user adjustment with external calibrator. Calibration history stored and displayed with calibration date/time.

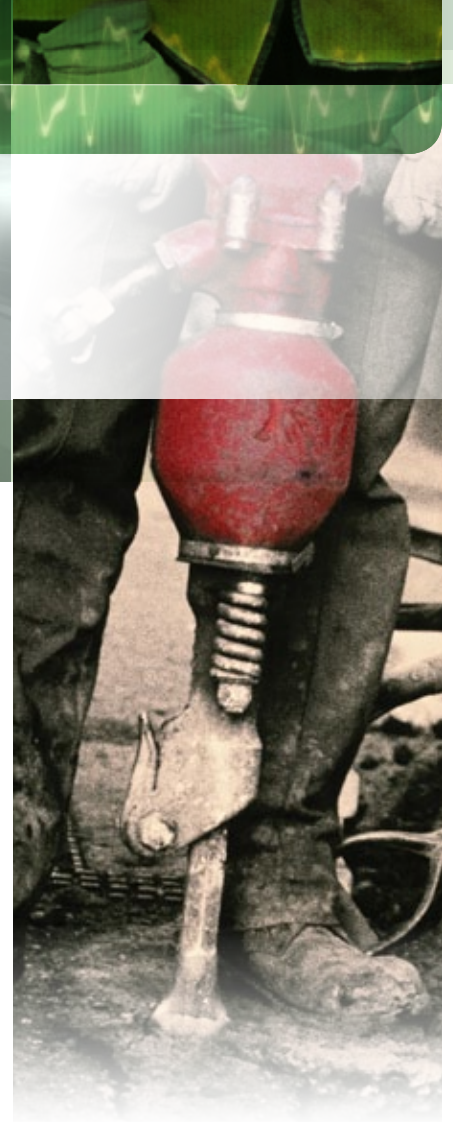
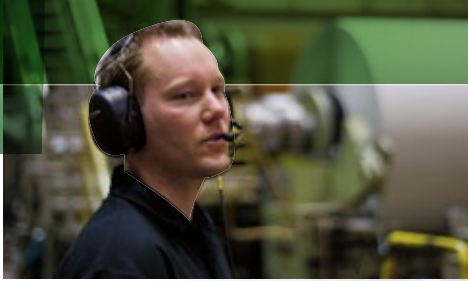
Summary Data: Stored session summary data includes: $L_{EQ/LAVG}$, L_{Max} , L_{Min} , L_{Pk} (peak), and user settings. Use DMS to interpret data files

Status Indicators: Run, Stop, Battery Status, Locked Status, OL (overload), UR (under-range), Run-Time



Models and Options

Accuracy:	SE-401	SE-402
Class/Type 1	•	
Class/Type 2		•
Remote capability with removable preamp	•	
External outputs: AC/DC	•	•
Serial printing for SoundPatrol feature	•	•
USB connectivity	•	•



Applications

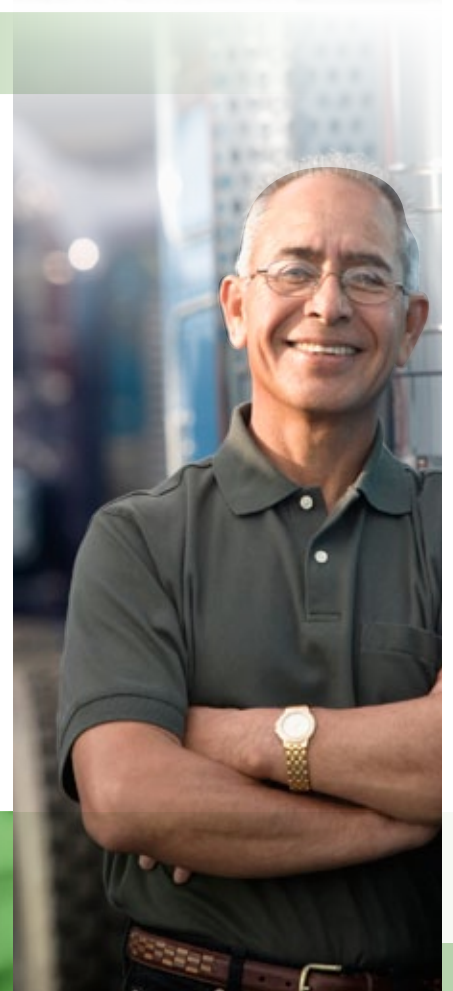
These models are designed for a wide range of occupational and environmental monitoring, including:

- Sound pressure level measurements
- Help determine hearing protection selection
- Occupational noise exposure measurements
- Measurement of environmental noise levels
- Maintenance inspections and troubleshooting
- Product testing and Quality Control
- Research and development

SoundPatrol

Optional Printing Capability

Enforcement of local noise ordinances requires measuring noise levels and documenting results, particularly when a citation is issued. The easy-to-use SoundPatrol portable digital printing capability included on the SE-401 with Class/Type 1 or SE-402 Class/Type2 models requires minimal training, so it can be easily deployed in the field by law enforcement personnel. Both rugged, high-quality devices meet applicable accuracy and performance requirements for sound level meters as defined by ANSI S1.4, ANSI S1.43, IEC 61672, IEC 61010, and IEC 61000-4.





SE-400 Specifications

MEASUREMENTS	
Parameters	SPL, L _{Max} , L _{Min} , L _{Pk} (Peak), L _{Eo} /L _{AVG} , Elapsed Time
Frequency Weighting	A, C, Z
Peak Frequency Weighting	A, C, Z
Response Time	Fast and Slow
Range	110 dBA total dynamic measurement range. Overall range 30 – 140 dBA (single range)
Max Peak Level	143 dBA (sampled peak)
Exchange Rates	3, 4, 5 dBA
Status Indicators	Run, Stop, Battery Status, OL (Overload), UR (Under-Range), Run-Time, Locked, Locked Status
PHYSICAL	
Size	11.2" (L) x 2.8" (W) x 1.3" (D) / 28.4 cm (L) x 7.1 cm (W) x 3.3 cm (D) (with preamp and microphone)
Weight	SE-401 model: 12.9 oz / 367.5 g (with preamp and microphone) SE-402 model: 13.4 oz / 380.5 g (with preamp and microphone)
Housing	Stainless fiber filled ABS Polycarbonate with light grey front and dark grey back
Tripod Mount	Standard photographic mount on backside accepts ¼" – 20 screw threads
Ingress Protection	IP65*
Drop Protection	Minimum 2 meters onto concrete, 2 times on each face. Acceptable microphone damage, no other loss of function, data or power
POWER/ELECTRICAL	
Battery	Lithium Polymer (2500 mAHr), rechargeable. Run-Time: 18 hours minimum (excluding the backlight)
Battery Life	3 years or 500 cycles (service replaceable)
Battery Charge	USB charger is provided with instrument. Battery charge time: 8 hours (approx.)
Internal Memory	2MByte
Communications	USB Interface
Standard Microphones	<ul style="list-style-type: none"> • Class/Type 1 Precision QE4936 Microphone • Class/Type 2 General QE7052 Microphone
Preamplifier	Preamp directly accepts ½" (13.2 mm) microphone
Remote Cable	Drives up to 15 m (50 ft) of cable with negligible signal loss

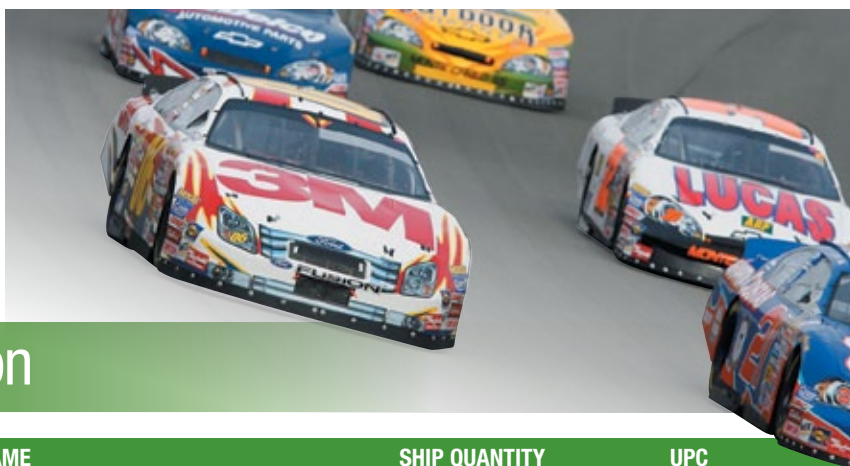
ENVIRONMENTAL	
Operating Temperature	-10 °C to 50 °C (14 °F to 122 °F)
Humidity	0 to 90% RH, non-condensing
Storage Temperature	-25 °C to 60 °C (-13 °F to 140 °F)
Atmospheric Pressure	Operating: 80 to 110 kPa; Storage: 50 to 150 kPa
PORTS AND CONNECTIONS	
AC/DC Output	3.5 mm stereo (tip – AC, center ring – DC, ring – Gnd)
I/O Connector	RS-232
USB	Conforms to USB 2.0, mini-USB connector
CONFORMANCE TO STANDARDS	
IEC 61672-1 (2002)	Electroacoustics, Sound Level Meters – Part 1: Specifications
IEC 61010-1 (2010)	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 1: General Requirements
IEC 61000-4-2 (2008)	Electromagnetic Compatibility (EMC) – Part 4-2: Testing and Measurement Techniques – Electrostatic Discharge Immunity Test
IEC 61000-4-3 (2008)	Electromagnetic Compatibility (EMC) – Part 4-3: Testing and Measurement Techniques – Radiated, Radio-Frequency, Electromagnetic Field Immunity Test
ANSI S1.4-1983 (R2006)	American National Standard, Specification for Sound Level Meters
ANSI S1.43-1997 (R2007)	American National Standard, Specifications for Integrating Averaging Sound Level Meters
CERTIFICATIONS/APPROVALS (PENDING)	
CE Mark	Self Certified

*Enclosure rated to IP65. Microphone and external connectors not IP rated.

The Importance of Integrating Measurements



Many workplaces have highly variable noise levels, making it difficult to assess the risk to employees at a specific point in time. The SE-400 series helps to solve this problem by measuring the average sound pressure level (L_{EQ}/L_{AVG}) over the run-time. The instruments also compute maximum, minimum and peak levels over the run-time to assist in the noise exposure evaluation.



Ordering Information

3M ID NO.	PRODUCT #	PRODUCT NAME	SHIP QUANTITY	UPC
70-0716-0794-2	SE-402	Sound Examiner Kit, Type 2 Microphone	1 kit/case	0 00 51131 49859 4
70-0716-0795-9	SE-401	Sound Examiner Kit, Type 1 Microphone, Remote Opt	1 kit/case	0 00 51131 49868 6
70-0716-2114-1	SE-402-10	Sound Examiner Kit w/QC-10, CI-2 mic, acc	1 kit/case	0 00 51131 49441 1
70-0716-2113-3	SE-401-AC3	Sound Examiner Kit w/AC-300, CI-1 mic, acc	1 kit/case	0 00 51131 49440 4
70-0716-0821-3	DMS	Detection Management Software DMS	1 ea/case	0 00 51131 49913 3
70-0715-8115-4	056-990	Calibrator to 1/2" Mic Adapter	1 ea/case	0 00 51131 48707 9
70-0715-8374-7	059-045	Tripod (approximately 46" or 117 cm)	1 ea/case	0 00 51131 48966 0
70-0715-8212-9	059-899	Extension Cable ICM-2 Microphone Cable (2 ft/61 cm)	1 ea/case	0 00 51131 48804 5
70-0715-8208-7	059-733	Extension Cable ICM-10 Microphone Cable (10 ft/3 m)	1 ea/case	0 00 51131 48800 7
70-0715-8209-5	059-734	Extension Cable ICM-50 Microphone Cable (50 ft/15.24 m)	1 ea/case	0 00 51131 48801 4
70-0715-8175-8	053-575	USB Cable - Sound Level Meters	1 ea/case (one incl.)	0 00 51131 48767 3
70-0715-8234-3	053-711	Carrying Case	1 ea/case (one incl.)	0 00 51131 48826 7
70-0715-8135-2	WS-7	WS-7 1/2" SLM Windscreen	3 ea/pkg, 1 pkg/case (one incl.)	0 00 51131 48727 7
70-0716-2110-9	SE-40X-PRINTER	SoundPatrol Portable Rechargeable Printer Kit w/acc	1 ea/case	0 00 51131 49436 7
70-0716-2098-6	057-342	Fujitsu Cable for SoundPatrol Portable Printer	1 ea/case	0 00 51131 49424 4
70-0716-2097-8	057-343	SoundPatrol SE-400 TIN-pin Cable to User Printer	1 ea/case	0 00 51131 49423 7
70-0716-2099-4	053-321	Cable w/4 int'l plugs to interface to SoundPatrol Printer	1 ea/case	0 00 51131 49425 1



DMS Software: Data Management Made Easy

The new 3M™ Detection Management Software (DMS) makes it easy to export, report, and share data from the SE-400 series.

- Retrieve, download, share and save instrument data
- Generate charts and reports
- Export and share recorded data
- Perform advanced calculations
- The software integrates with 3M Quest instruments, and will help improve both efficiency and reporting of noise monitoring data.



3M

Occupational Health & Environmental Safety Division

Quest Technologies, a 3M Company
1060 Corporate Center Drive
Oconomowoc, WI 53066
Customer Service: 262-567-9157
Toll Free: 800-245-0779
www.3M.com/detection

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