

Introduction

Welcome to the Larson Davis SoundTrack LxT[®]. This versatile instrument, with graphic display, performs the functions of several instruments. It puts the combined features of a precision sound level meter and a real-time frequency analyzer in the palm of your hand.

About This Manual

This manual has 18 chapters and 5 appendices covering the following topics:

Chapters

- **Chapter 1 - Introduction:** Orients the user to the contents of this user manual and the LxT features, functions and measurement capabilities.
- **Chapter 2 - First Use:** Describes the process of unpacking the LxT and preparing for first use.
- **Chapter 3 - Overview:** A brief discussion of the displayed views, the keypad and navigation through the various functions of the LxT.
- **Chapter 4 - Basic Measurement Setup:** A detailed description of setting up the LxT for the measurement of basic sound level parameters
- **Chapter 5 - Basic Data Display:** A detailed look at the various metrics and information presented on these screens during and following a basic sound level measurement.
- **Chapter 6 - Run Control:** The LxT provides a number of run modes to control the time duration of a measurement. These include Manual Stop, Timed Stop, Stop when Stable, Continuous, Single Block Time and Daily Timer modes.
- **Chapter 7 - Making a Measurement:** Describes the important steps in making an accurate sound level measurement.
- **Chapter 8 - Voice Recording:** The user is instructed in the process of recording, reviewing and saving voice messages.

- **Chapter 9 - Time History:** Describes the use of the optional firmware LXT-LOG and LXT-HSLOG for measuring time history data.
- **Chapter 10 - Data Explorer:** Learn to use the Data Explorer to view stored data files, load settings from a saved data file and other operations.
- **Chapter 11 - System Properties:** A discussion of instrument related functions.
- **Chapter 12 - Lock and Unlock The LxT:** A discussion of the various scenarios to lock or unlock the LxT and the interaction with running a measurement.
- **Chapter 13 - Calibration:** Describes the process of calibrating an LxT.
- **Chapter 14 - About:** A look at basic LxT system related information.
- **Chapter 15 - System Utilities:** A description of the utilities available within the LxT.
- **Chapter 16 - Hardware:** A description of the major hardware related features of the LxT.
- **Chapter 17 - Parameters Measured:** An overview of the many parameters measured and recorded by the LxT
- **Chapter 18 - Memory Utilization:** Presents formulas to determine the memory used when saving parameters to internal memory
- **Chapter 19 - Upgrade Firmware/Add Options:** Describes the procedure for upgrading firmware versions and adding options to the LxT

Appendices

- **Appendix A - Technical Specifications:** Provides a listing of acoustic, electronic, environmental and physical characteristics of the LxT.
- **Appendix B - Measuring to IEC61672-1:** Provides specifications and information specifically required to appear in the manual by this standard.
- **Appendix C - Integrated Level Calculations:** provides information on TWA, Leq, SEL, Dose and Projected Dose calculations.
- **Appendix D - Glossary:** Contains technical definitions of key acoustic and vibration terms.

- **Appendix E - Warranty/Customer Satisfaction:** A presentation of warranty and customer satisfaction policies.

Features

Hardware Features

The Larson Davis SoundTrack LxT has the following features:

- **Precision integrating sound level meter**
- **256 MB unformatted standard data memory (2 GB optional)**
- **160 X 240 graphic LCD display with backlight and icon-driven user interface**
- **Silent Touch elastomeric keypad**
- **Large dynamic range providing single SLM display page**
- **Jack for AC/DC output or headset microphone and speaker**
- **Compatible with 61 m (200 ft.) microphone extension cable (full scale to 20 kHz)**
- **4-AA batteries provide 16 hour operating time**
- **USB 2.0 full speed peripheral connector and AC/DC output**
- **Multiple language support: English, French, German, Italian, Portuguese, Spanish and Swedish.**
- **Field-upgradeable firmware**
- **WS001 windscreen**

Basic Measurements

- **SPL, Leq, Lmax, Lmin, SEL, Lpeak, Lpeak(max)**
- **RMS Detectors: Slow, Fast & Impulse**
- **RMS Frequency Weighting: A, C & Z**
- **Peak Frequency Weighting: A, C & Z**
- **L_N statistics: 6 user-selected values over the range ($L_{0.01}$ through $L_{99.99}$) and Histogram tables**
- **2 Sets of hygiene metrics: Lavg, TWA(x), Dose, ProjDose, Lep,d**
- **E, E8, E40**
- **SEA peak exposure**
- **2 RMS event counters and 3 Peak event counters**

Basic Operation

- **Auto-Store with Auto-Reset**
- **Run Timer and Stop-When-Stable Control**
- **Real-time clock**
- **Start time, elapsed time and paused time**
- **Time stamping for Lmax, Lmin, Lpeak(max) metrics**
- **Session Log**
- **Lock functions**
- **Calibration with calibration history and list of calibrators**
- **Power management**
- **Status bar and About display**
- **Multiple languages**
- **Data files and Data Explorer**
- **Automatic data backup to prevent data loss on power failure**
- **Overall measurement**

Available Options

- **Real-time 1/1 Octave Frequency Analysis (LXT-OB1)**
- **Real-time 1/3 & 1/1 Octave Frequency Analysis (LXT-OB3)**
- **Automatic Data Logging with intervals from 1 second to 24 hours (LXT-LOG). Add LXT-HSLOG as well to obtain intervals down to 100 milliseconds.**
- **Measurement History Environmental Data Logging (LXT-ENV)**
- **Community Noise (LXT-CN)**
- **Digital Voice Annotation (LXT-DVA) (includes SLM LxT Headset ACC003)**
- **2 GB Memory (LXT-MEM2G)**

Standard Accessories

The LxT is delivered with the standard accessories described below.

Microphone and Preamplifier

The LxT is delivered with one of the following combinations of microphone and microphone preamplifier.

Instrument	Microphone Preamplifier	Microphone	Microphone Sensitivity	IEC 61672-1 Conformance	Measurement Range
LxT1	PRMLxT1	377B02	50 mV/Pa	Class 1	38 dB to 140 dB
LxT2	PRMLxT2	375A02	22.6 mV/Pa	Class 2	37 dB to 139 dB

Table 1-1 Microphone and Preamplifier

Software

- **SLM Utility-G3 software, providing setup utilities, calibration routines, remote instrument control from PC, data downloading and export of data to 3rd party software such as MS Excel. Also includes SLMScreegrabber to capture and save screen displays as bitmap files. CBL138 USB cable required for utilization.**

Other

- **Windscreen, 3 1/2 in. diameter (WS001)**
- **Alkaline Batteries: 4-AA**
- **Lanyard**

Optional Accessories

Microphones

- **1/2 in. free-field prepolarized microphone, 50 mV/Pa (order 377B02)**
- **1/2 in. free-field prepolarized microphone, 23 mV/Pa (order 375A02)**

Microphone Preamplifiers

- **PRMLxT1 Type 1 with 23 dB capacitive attenuation**
- **PRMLxT2 Type 2 with 15 dB capacitive attenuation**
- **PRMLxT1L Low-Level Type 1 with no attenuation**
- **PRMLxT2L Low-Level Type 2 with no attenuation**

Microphone and Preamplifier Configurations

- **PRMLxT1 or PRMLxT1L with 377B02**
- **PRMLxT2 or PRMLxT2L with 375A02**
- **PRMLxT1 with 377C01 (including ADP043 adapter)**

Equivalent Electrical Impedance Adaptor

An equivalent electrical impedance adaptor can be used in place of the microphone when the instrument is being measured electrically. The adaptor is simply a series capacitor with the same capacitance as the microphone it is replacing. The following adaptors will be available for sale.

- **ADP002 6.8pF Adaptor for 1/4 in., 7pF microphone (377B01 or C01)**
- **ADP005 18pF for 1/2 in., 18pF microphone (375A02)**
- **ADP090 12pF for 1/2 in., 12 pF microphone (377B02)**

Cables

Direct Input Cable or Adaptor

- Microphone Extension Cable (shielded): EXCXXX, where XXX is the length in feet (XXX = 010, 020, 050, 066, 100 and 200 available).
- USB Cable: CBL138
- AC/DC Output Cable: CBL139

Power Supplies

- Universal AC Power Adaptor: PSA029
- 12 Volt DC to USB Power Adaptor: PSA031

Software

- Blaze[®] software (SWW-BLAZE-LXT) for setup, control and high speed data download.
- DNA (Data, Navigation and Analysis) software for instrument control, high speed data download, data streaming with real-time data display on PC, advanced data graphic presentations and powerful report generation features.

Accessory Kits

- LXT-ACC including
 - LXT-CCS Hard Shell Case
 - CAL200 Class I Calibrator
 - PSA029 Power Supply
 - CBL138 USB Cable
- LXT-ACC1 including
 - LXT-CCS Hard Shell Case
 - CAL200 Class I Calibrator
 - PSA029 Power Supply
 - CBL138 USB Cable

Other

- Headset with microphone for voice recording/playback (ACC003). Note: this is included with the optional accessory LXT-DVA
- Storage Case: LXT-CCS

Environmental Protection

- **EPS2106-2 Environmental Shroud**
- **EPS2108-2 Environmental Shroud**
- **EPS029-LXT: Environmental Case with two lead acid batteries and integrated microphone mast**
- **EPS030-LXT: Environmental Case with one lead acid battery: used with external microphone tripod**

Tripods

- **TRP001: Instrument/Camera Tripod with ADP032 1/2 in. microphone clip. Use with EPS2108-2.**
- **TRP002: Microphone Stand with adjustable height and boom angle.**
- **TRP003: Support Tripod, heavy duty, can be used with EPS029, EPS030 and EPS2106-2.**

Calibrators

- **CAL150**
- **CAL200**

Printer

- **PRN003 USB Serial Printer**

LxT Components



FIGURE 1-1 The LxT

The SoundTrack LxT is a convenient hand-held sound level meter / real-time analyzer with a simple user interface.

The standard LxT shown in FIGURE 1-1 includes the following:

- **1/2 in. diameter condenser microphone**
- **Backlit graphic 160 x 240 pixel LCD display**
- **13-key soft rubber backlit keypad**
- **AC/DC output, control, USB, and external power connectors (shown in FIGURE 1-2)**
- **True “hand held” instrument with “sure grip” pads**

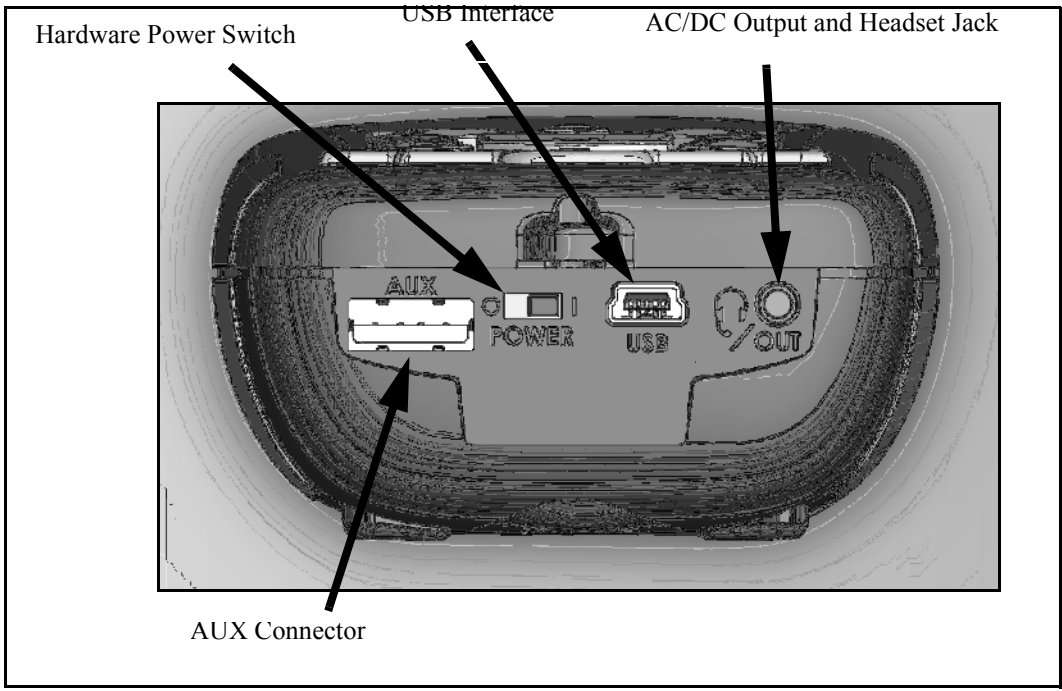


FIGURE 1-2 LxT Bottom View