



LSS-200

Light and Sound Sensor



Features

- Luminance Measurement
- Chromaticity Measurement
- SPL Measurement
- Audio/Video Synchronization
- Internal temperature sensor to monitor auditorium temperature and to track changes
- Displays live measured data along with user defined reference values
- TCP Command Interpreter accepts commands over Ethernet to log data, send current measurement, start a measurement script, etc.
- Define unlimited number of user scripts (up to a total of 65,530 characters)
- Captures measurements to a log, showing the measurement in red if it is outside user defined limits
- Post log data to one or more HTTP or HTTPS servers
- Powered by a POE enabled Ethernet switch, a user supplied power injector, or USB

Introduction

The LSS-200 is designed for cinema auditorium quality control. It measures C-weighted sound pressure level (SPL) in dB, luminance in cd/m^2 and fL, chromaticity (x and y), correlated color temperature, and audio/video synchronization. The LSS-200 makes all of these measurements available on a web interface, through TCP commands over Ethernet, and by posting data to a remote web server for further analysis and display.

In a typical installation, the digital cinema server runs a test show each day. The show consists of one or more test compositions. A test composition contains a white flash sequence that identifies the test script the LSS-200 is to run, followed by the test content (screen image(s) and sound through each speaker). Several test compositions are available for different auditorium configurations. Each of these provide pink noise to each speaker in the auditorium. The LSS-200 measures the SPL from each

speaker to detect changes in the system. The test compositions also include a white test pattern allowing the LSS-200 to measure peak luminance and chromaticity. Additional test compositions allow the testing of auditoriums using the Dolby® CP850 Atmos sound processor and audio/video sync. Captured measurements are limit checked, logged, and optionally posted to a remote web server for further analysis.

The LSS-200 contains an XYZ color sensor, not an image sensor. There is no possibility of the LSS-200 transmitting an image of the movie, so it does not present any security issues.

The LSS-200 is powered by Power Over Ethernet. A user-supplied POE Ethernet switch or POE injector (IEEE 802.3af class 1 or "passive 48V") is used to power the unit. If desired, it may also be powered using a USB cable and power supply.

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Specifications

System Details

Dimensions (HxWxD)	2 x 3.35 x 6.5 inches (51 x 85 x 165 mm)
Weight	1.1 lb (0.5 kg)
Power	IEEE 802.3af class 1 Power over Ethernet Powered Device, or USB 5V, 1.5 W max.

Accuracy (typical)

Chromaticity	+/- .003 for x and y at SMPTE 431-1:2006 peak white (0.314, 0.351, 48 cd/m ²) with xenon-based projector
Luminance	+/- 2% at SMPTE 431-1:2006 peak white
Acceptance Angle	+/- 2.85 degrees
SPL	+/- 1 dB at 94 dB, 1 kHz

Communications

Ethernet	10/100 Mbps
TCP Server	Supports 5 connection on port 10001
HTTP Server	4 sockets
Discovery	Supports QSC Ethernet Device Discoverer to find devices on the network
Default IP Address	169.254.1.6

Specifications subject to change without notice.



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