

**T**HE SYMETRIX 571 SPL COMPUTER IS AN AUTOMATIC LEVEL CONTROLLER that maximizes intelligibility by changing gain in proportion to environmental noise level changes. In essence, controlling the volume of the sound system by measuring the volume of the ambient noise and then adjusting the system gain accordingly. The operating characteristics of the SPL computer are controlled by a powerful microprocessor, running under Symetrix proprietary software. This reduces the 571's calibration time and allows the installer to optimize performance for any situation. No test gear is needed because the 571 obtains and stores the information it needs during calibration.

The 571 has separate inputs for paging and music as well as dual microphone inputs for the sensing microphones and a direct paging microphone input. A front panel page over music function enables up to 14 dB of music attenuation during announcements. The LED meter on the front not only indicates gain change but also aids in setup and calibration.

More than just a volume control, the 571 has an "averaging time" control for the mic sensing and a ratio control for adjusting the reaction of the 571 to the changes in the ambient noise. The real intelligence of the 571 lies in its ability to ignore the changes of signals passed through it and therefore won't allow runaway gain changes as the system tries to chase itself. You show the 571 the parameters of the acoustic environment during calibration and then set the way you want the unit to respond to changes. The 571 then takes the information it has stored in memory and makes smooth, appropriate changes to keep the levels exactly where you want them.

From racetracks to ballrooms to subway stations, the Symetrix 571 gives you effective, reliable, system level control that reacts to real world changes, not timer set programs.

## 571 vs. 572

Which one is right for your application?

Both of our SPL Computers perform similar functions but are quite different in application and features.

The 571 uses one or more microphones to sense the ambient and therefore doesn't need to interrupt the audio signal to be able to make changes. This is necessary for applications that require constant paging signals that need to be raised or lowered over short sections of time. The cost effective 572 uses the speaker system itself to sense changes, thus saving the installer/customer from the price of external sensing microphones and cabling, but it must have periodic silence in the audio for the speaker to perform as a sensor. •

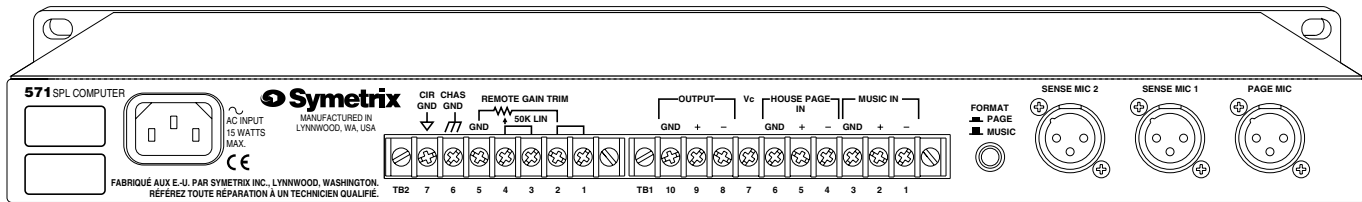
## APPLICATIONS

- Factories
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- Airports
- 
- Restaurants
- 
- Casinos
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- Museum Exhibits
- 
- Stadiums
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## FEATURES

- Constant or averaged time sensing (1.2 secs. to 5 min.)
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- No runaway gain, feedback
- 
- 40 dB control range
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- Ignores level changes in the audio signal passing through the SPL computer
- 
- Allows for more than one microphone to "average" a room's ambient signal
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# 571



## SPECIFICATIONS

### Input/Output Inputs

- 2 Sensing Mic (-40 dBu nominal) CMRR = >60 dB at 1 kHz
- 1 Paging Mic (-40 dBu nominal) CMRR = >60 dB at 1 kHz
- 1 Line (0 dBu nominal) CMRR = <40 dB at 1 kHz
- 1 Music (-10 dBu nominal) CMRR = <40 dB at 1 kHz

### Maximum Input Level

-30 dBu (mic inputs)

+18 dBu (line inputs)

### Input Impedance

Mic: Electronically Balanced Bridging

200 Ohms, nominal (not phantom powered)

Line: Electronically Balanced Bridging

20 kilohms nominal

### Phantom Power (on all mic inputs)

15VDC

### Output

Balanced, Transformerless

### Maximum Output Level

+24 dBm (600 Ohms Balanced)

### Output Impedance

100 Ohms

### Performance Data

Maximum Control Range

40 dB

Ambient Noise to Gain Ratio

Variable, 2:1 to 1:2

Averaging Time

1.2 sec. to 5 min.

Page-Over Music (ducking)

Variable, 0 to 14 dB

Frequency Response

20 Hz to 20 kHz (+ 1 dB, -0 dB)

THD+Noise

<0.05%, unity gain, 2 kHz,

music in to line out

Overall Noise

Less than -85 dBm, unity gain (30 kHz noise bandwidth)

### Physical

Size

1.74 x 19 x 6.25 inches, 4.42 x 48.26 x 15.875 centimeters

Weight

8 lbs (3.6kg) net

### Electrical

Power Requirements

117V AC nominal, 60 Hz, approx. 12 watts

Specifications subject to change without notice.

## 571 ARCHITECTS AND ENGINEERS SPECIFICATIONS

The ambient sensing automatic level controlling device shall regulate the operating level of a sound system in proportion to changing noise levels in the sound system's operating area. The device shall be capable of providing gain control over up to 40 dB overall range, and shall be governed by a microprocessor which shall be controlled by embedded software. The device shall vary its gain based upon measurements of the sound pressure level of ambient noise in the environment. Inputs shall be provided for up to two sensing microphones. The device shall be capable of making 215 sound pressure level measurements per second, and shall have a continuously variable Averaging Time control to cause the device to maintain a running average of those measurements for a minimum of 1.2 seconds to a maximum of 5 minutes,

before using that average to compute gain adjustments. The device shall provide inputs for paging signals at microphone level (nominal -40 dBu) or line level (nominal 0 dBu), and for music signals at line level (nominal -10 dBu). Automatic regulation shall be selectable to apply to paging signals only (Page mode), or to apply primarily to music signals (Music mode).

In Page mode the device shall adjust paging levels continuously with respect to ambient noise sound pressure levels. In Music mode the device shall adjust background music levels continuously with respect to both ambient noise levels and paging activity; in Music mode, paging signals shall cause the device to attenuate music signals as determined by its Page-Over Music control, which shall be

continuously variable from 0 to 14 dB (ducking). The device shall have a Ratio control to vary the ambient noise-to-gain ratio continuously from 2:1 to 1:2. An Output Gain Trim control shall be provided to allow overall gain to be adjusted over a 20 dB range. The Output Gain Trim control shall be remote controllable at a distance of up to 400 feet by the connection of a 50 kilohm variable resistor. Calibration of the automatic level controlling device shall be semiautomatic, and shall require switching the device to CAL Mode, and adjusting the minimum desired operating level, and the maximum desired operating level. Calibration settings shall be continuously maintained in nonvolatile memory without the need for battery pack up power.

In addition to the various functions and general specifications mentioned above,

the ambient sensing automatic level controlling device shall meet or exceed the following overall performance criteria: frequency response  $\pm 1$  dB 20 Hz to 20 kHz, total harmonic distortion less than .05% at any attenuation from -40 dB to 0 dB (2 kHz), maximum paging microphone input level -30 dBu, maximum line input level +18 dBu, minimum sensing microphone input level -80 dBu, maximum output level +24 dBm into 600 Ohms (balanced). Minimum impedance at the microphone inputs shall be 1800 Ohms, minimum impedance at the line inputs shall be 10 kilohms. The device shall be housed in an all steel chassis designed to be mounted in a 1U (1.74") space in a standard 19" rack. The ambient sensing automatic level controlling device shall be the Symetrix model 571 SPL Computer.

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