

**Basic Description**

The SPL-1 is an embedded accessory that provides two independent channels of power limiting, for speaker protection, SPL regulation, etc.

The SPL-1 is a feedback-type limiter, using samples of the amplifier's output signals as references. The user-selectable thresholds are scaled to the amplifier's maximum output level, with sixteen possible settings from 28.8% (-10.8 dB) up to 100% (0 dB) of full rated power. Each channel has three user-selectable attack/release speeds, for optimizing limiter response to specific types of program material and/or loudspeaker types. The circuitry uses high-performance VCAs from THAT Corporation to provide precise, low-distortion gain reduction.

The accessory is compatible with PLX, DCA, CX, and PowerLight (except PL 2.4<sup>MB</sup>, PL 3.4, PL 3.8<sup>x</sup>, PL 4.0, PL 6.0<sup>PFC</sup>, and PL 9.0<sup>PFC</sup>) models fitted with an internal BusCard. It is also directly compatible with MXa, EX, and various legacy CX models. See below for a more detailed list. Because the SPL-1 mounts inside the amplifier, once you set it you need not worry about tampering; this makes the accessory ideal to use as loudspeaker protection in rental or turnkey systems.

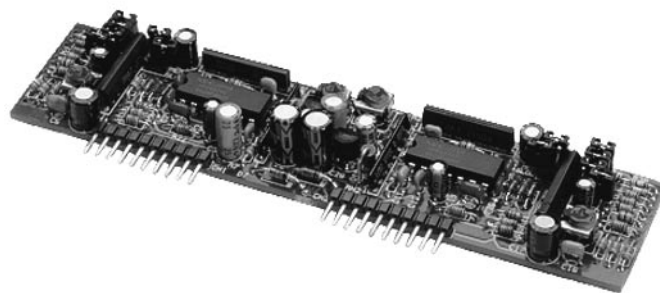
**Compatible amplifier models**

- PowerLight models (except PL 2.4<sup>MB</sup>, PL 3.4, PL 3.8<sup>x</sup>, PL 4.0, PL 6.0<sup>PFC</sup>, and PL 9.0<sup>PFC</sup>) with appropriate BusCard installed
- PLX, CX, and DCA models with appropriate BusCard installed
- MXa and EX models
- Legacy CX models CX6, CX6T, CX12, and CX12T

**Features**

- Two channels of independent power limiting prevent speaker damage from operation by unskilled persons
- Sixteen selectable limit thresholds on each channel, referenced to amplifier's maximum output capability
- Three selectable attack/release speeds on each channel
- Mounts inside amplifier; virtually tamper-proof
- Adds limiting functions without requiring additional rack space, cabling, or AC outlets
- Precision VCAs and componentry for accurate performance
- Active balanced inputs

*Specifications subject to change without notice.*



**QSC**<sup>TM</sup>  
**A U D I O**

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<b>SPL-1 SPECIFICATIONS</b>	<b>SPL-1</b>
<b>GENERAL INFORMATION</b>	
<i>Operating Temperature</i>	<i>0–70° C</i>
<i>Input type, each channel</i>	<i>Electronically balanced differential</i>
<i>Input impedance</i>	<i>20.0 kΩ balanced; 10.0 kΩ unbalanced</i>
<b>CONTROLS (each channel)</b>	
<i>Threshold</i>	<i>4 pairs of header pins with jumpers (16 selections)</i>
<i>Attack/release</i>	<i>3-pin header with one jumper (3 selections)</i>
<b>CONNECTORS</b>	
<i>Input/output/power</i>	<i>22-pin (10+12) “Mini-Slot” header, mounts to BusCard or Open Input Architecture input board</i>
<b>GENERAL AUDIO</b>	
<i>Threshold selections (0 dBr = full output)</i>	<i>-10.8, -10.1, -9.4, -8.7, -8.0, -7.2, -6.5, -5.8, -5.0, -4.3, -3.6, -2.9, -2.2, -1.5, -0.7, &amp; 0.0 dBr</i>
<i>Attack/release time constants</i>	<i>Fast (0.05/200 ms), medium (0.65/1000 ms), &amp; slow (1.9/2800 ms); ±30%</i>
<i>Compression ratio</i>	<i>16 : 1</i>
<i>THD (no limiting)</i>	<i>0.006% (1 kHz); 0.04% (20 Hz–20 kHz)</i>
<i>THD(1 kHz, threshold @ -5 dBr &amp; 5 dB overdrive)</i>	<i>0.017% (slow); 0.021% (medium); 0.06% (fast)</i>
<i>Input overload, 20 Hz–20 kHz</i>	<i>+20.2 dBu (+18 dBV)</i>
<i>Common mode rejection ratio</i>	<i>55 dB @ 200 Hz; 40 dB @ 40 dB</i>
<i>Dynamic range</i>	<i>118 dB nominal</i>
<i>Equivalent input noise</i>	<i>-100 dBV</i>

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