

**5201S, 5201S-8, 5251S, 5101S, 5101S-8, 5151S**

**TWO INPUT, ONE OUTPUT MIXER CARDS WITH SWITCH**

**DESCRIPTION**

The 5201S subgroup of the 5000 Series Audio Processing System consists of six cards as described in Table 1 below. Each card has one or two balanced inputs mixed to one output. In the case of expansion cards (model numbers having an "E" suffix), which are used for adding extra inputs, the output is not available externally. It is routed, via the mother board, to the expansion input of the card located in the next slot to the right (as seen from the front) in the 5032 Mainframe.

Cards having line level inputs use Model 100L Active Input Modules for input signal processing. Cards having microphone level inputs use Model 150M Active Input Modules for input signal processing. All cards with a '-8' suffix use Model 208S 8 Watt Power Amplifier Module in the output and have the capability of delivering 8 W to an 8 Ω speaker load. All other cards except expansion cards ('E' suffix) use Model 200L Active Output Modules, with balanced floating outputs, as drivers for the external loads.

Each input includes a digital switch to allow the input to be enabled and disabled remotely. Each card has a red LED switch status indicator for each input. When the input is ON the indicator is lit. The LEDs are mounted on the front edge of the card so that they may be observed while the system is operating. The upper LED is associated with input 1, and the lower with input 2. Single input cards use input 1.

MODEL	NUMBER OF INPUTS	INPUT LEVEL	SWITCH DRIVE	NUMBER OF OUTPUTS	OUTPUT LEVEL
5201S	2	Line	Ground = ON	1	Line
5201S-8	2	Line	Ground = ON	1	Speaker
5251S	2	Microphone	Ground = ON	1	Line
5101S	1	Line	Ground = ON	1	Line
5101S-8	1	Line	Ground = ON	1	Speaker
5151S	1	Microphone	Ground = ON	1	Line

Table 1 - Model Descriptions



## SPECIFICATIONS

### ELECTRICAL

1. Maximum Gain	
5201S, 5101S . . . . .	24 dB
5201S-8, 5101S-8 . . . . .	34 dB
5251S, 5151S . . . . .	57 dB
2. Input Gain Range	
5201S, 5201S-8, 5101S, 5101S-8, . . . . .	-2 dB - +18 dB
5251S, 5151S. . . . .	+26 dB - +51 dB
3. Maximum Input Level	
At Minimum Input Gain	
5201S, 5201S-8, 5101S, 5101S-8. . . . .	+22 dBu
5251S, 5151S . . . . .	-5 dBu
At Maximum Input Gain	
5201S, 5201S-8, 5101S, 5101-8 . . . . .	+2 dBu
5251S, 5151S . . . . .	-31 dBu
4. Input Impedance	
5201S, 5201S-8, 5101S, 5101S-8 . . . . .	10 M in parallel with 1000 pF
20 Hz - 20 kHz, balanced	
5251S, 5151S . . . . .	12 k $\Omega$ , $\pm$ 5%
20 Hz - 20 kHz, balanced	
5. Maximum Output Attenuation . . . . .	>90 dB
6. Maximum Output Level	
5201S, 5101S, 5251S, 5151S . . . . .	+24 dBu, min
$R_L \geq 600 \Omega$	
5201S-8, 5101S-8. . . . .	+8 VRMS. Min
$R_L \geq 8 \Omega$	
7. Output Impedance	
5201S, 5101S, 5251S, 5151S. . . . .	<0.5 $\Omega$
Balanced and Floating, 20 Hz - 20 kHz	
5201S-8, 5101S-8. . . . .	<0.5 $\Omega$
20 Hz - 20 kHz	
8. Frequency Response . . . . .	$\pm$ 0.5 dB
20 Hz - 20 kHz	
9. Total Harmonic Distortion, THD	
5201S, 5101S, 5251S, 5151S . . . . .	<.02%
+24 dBu, 20 Hz - 20 kHz)	
5201S-8, 5101S-8 . . . . .	<.3%
8 W, $R_L=8\Omega$ , 20 Hz - 20 kHz)	
10. Intermodulation Distortion, IMD	
5201S, 5101S, 5251S, 5151S . . . . .	<.01%
+24 dBu, 60 Hz/7 kHz	
5201S-8, 5101S-8 . . . . .	<.3%
8 W, $R_L=8\Omega$ , 60 Hz/7 kHz	

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11. Signal-to Noise Ratio, S/N	
5201S, 5101S . . . . .	>95 dB
Unity Gain, referred to +4 dBu, 22 Hz - 22 kHz filters	
5201S-8, 5101S-8 . . . . .	>95 dB
Below 8 W reference, 16 dB gain, 22 Hz - 22 kHz filters	
5251S, 5151S . . . . .	>76 dB
54 dB Gain, referred to +4 dBu, 22 Hz - 22 kHz filters	
12. Common Mode Rejection Ratio, CMRR	
5201S, 5201S-8, 5101S, 5101S-8 . . . . .	>60 dB
20 Hz - 20 kHz	
5251S, 5151S . . . . .	>80 dB
20 Hz - 20 kHz	
13. Switch Control Characteristics	
5201S, 5201S-8, 5251S, 5101S, 5101S-8, 5151S	
Switch Control Terminal Open . . . . .	Channel OFF
Switch Control Terminal Grounded . . . . .	Channel ON
Switch Control Terminal Open . . . . .	Channel OFF
Switch Control Terminal at +5 V . . . . .	Channel ON
14. Power Requirements	
Supply Voltage . . . . .	±15 V
Typical Current Drain	
5201S . . . . .	48 mA
5201S-8 . . . . .	50 mA
5251S . . . . .	52 mA
5101S . . . . .	43 mA
5101S-8 . . . . .	45 mA
5151S . . . . .	45 mA
15. DC Voltage Short Circuit Protection	
5201S, 5251S, 5101S, 5151S, . . . . .	Thermistor (Self Resetting)
5201S-8, 5101S-8 . . . . .	1.5 A Pico Fuse

**MECHANICAL**

1. Size (maximum Overall Dimensions)	
Height . . . . .	(7.11 cm) 2.8"
Width . . . . .	(3.18 cm) 1.25"
Depth . . . . .	(21.3 cm) 8.4"
2. Weight	
5201S . . . . .	(227 gm) 0.50lb
5201S-8 . . . . .	(213 gm) 0.47lb
5251S . . . . .	(227 gm) 0.50lb
5101S . . . . .	(177 gm) 0.39lb
5101S-8 . . . . .	(159 gm) 0.35lb
5151S . . . . .	(173 gm) 0.38lb

**ENVIRONMENTAL**

1. Operating Temperature Range . . . . .	(+32 °F - +131 °F) 0 °C - +55 °C
2. Storage Temperature Range. . . . .	(-40 °F - +158 °F) -40 °C - +70 °C



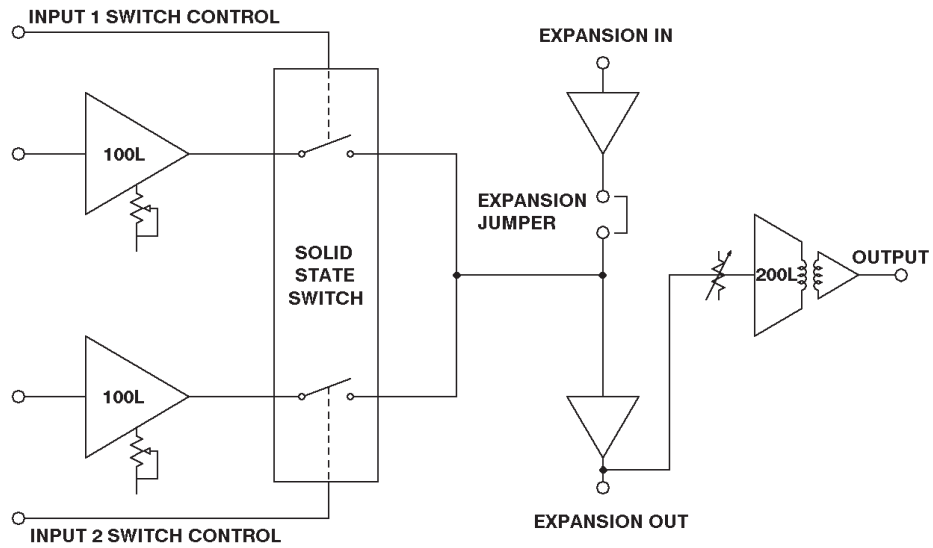


Figure 1 - 5201S Block Diagram

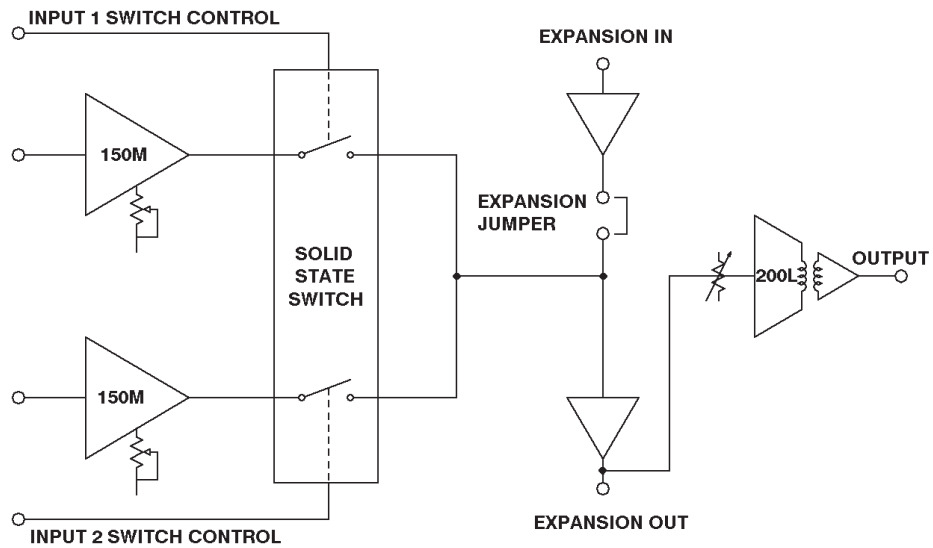


Figure 2 - 5251S Block Diagram

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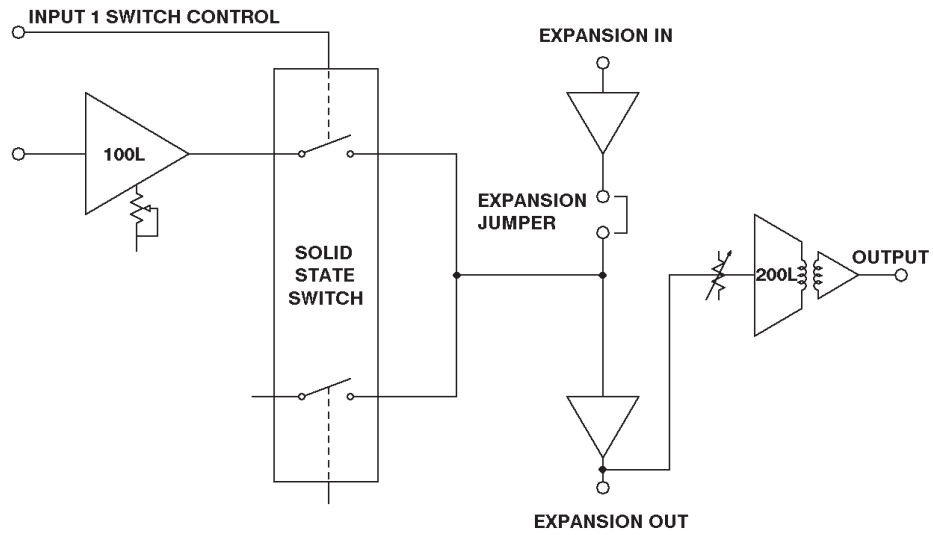


Figure 3 - 5101S Block Diagram

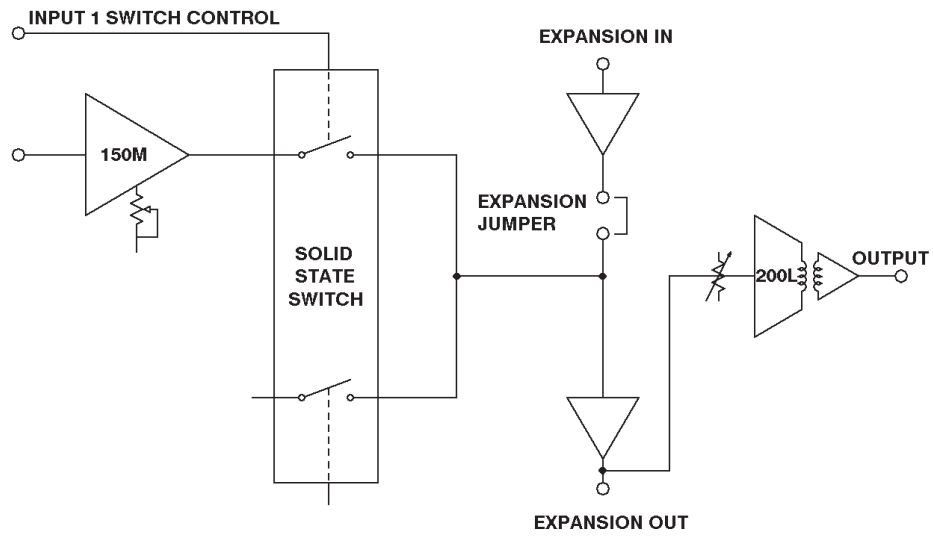


Figure 4 - 5151S Block Diagram



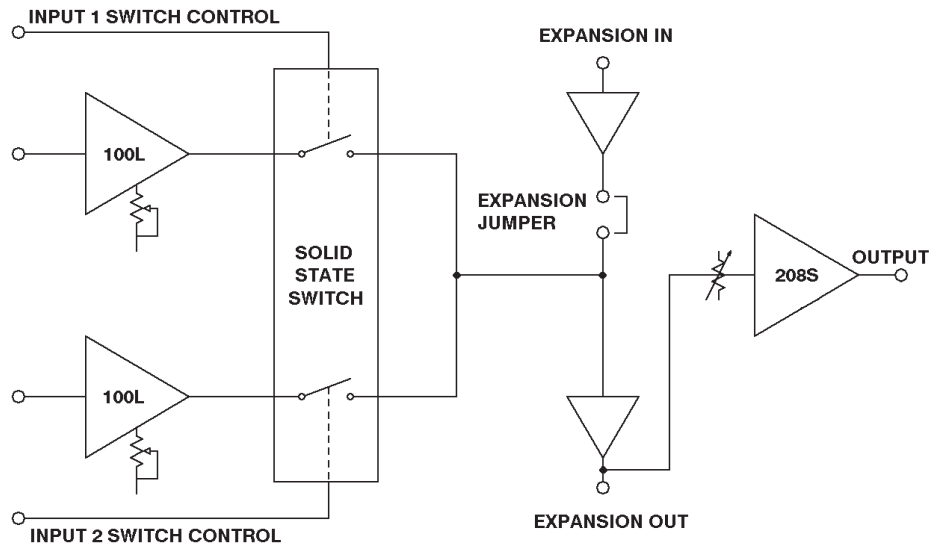


Figure 5 - 5201S-8 Block Diagram

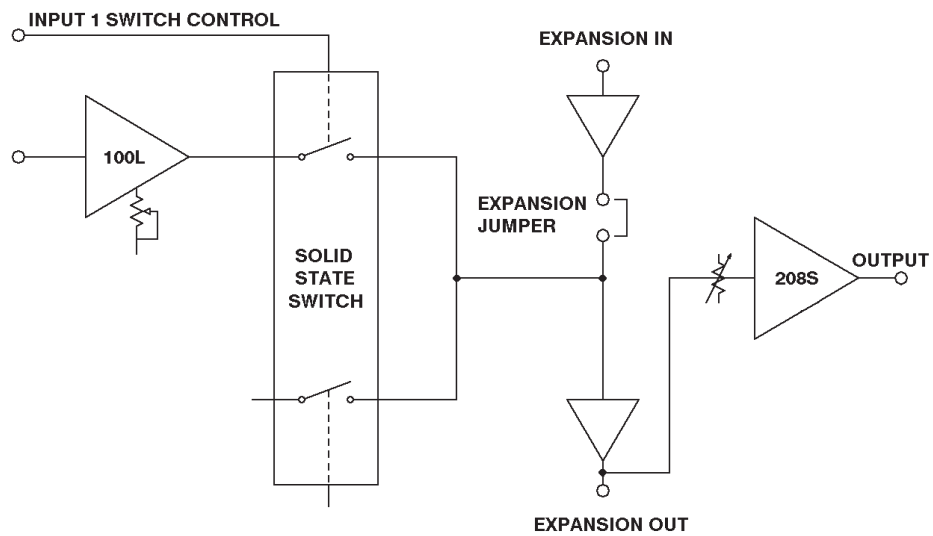


Figure 6 - 5101S-8 Block Diagram

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