

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

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

**DESCRIPTION**

The 5201CS 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.

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

Table 1 - Model Descriptions

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 110C Compressor for reducing average level excursions and 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.



## SPECIFICATIONS

### ELECTRICAL

1. Maximum Gain	
5201CS, 5101CS . . . . .	44 dB
5201CS-8, 5101CS-8 . . . . .	54 dB
5251CS, 5151CS . . . . .	77 dB
2. Input Gain Range	
5201CS, 5201CS-8	
5101CS, 5101CS-8 . . . . .	-2 dB - +18 dB
5251CS, 5151CS . . . . .	+26 dB - +51 dB
3. Maximum Input Level	
At Minimum Input Gain	
5201CS, 5201CS-8, 5101CS, 5101CS-8 . . . . .	+22 dBu
5251CS, 5151CS . . . . .	-5 dBu
At Maximum Input Gain	
5201CS, 5201CS-8, 5101CS, 5101CS-8 . . . . .	+2 dBu
5251CS, 5151CS . . . . .	-31 dBu
4. Input Impedance	
5201CS, 5201CS-8, 5101CS, 5101CS-8 . . . . .	10 M in parallel with 1000 pF
20 Hz - 20 kHz, balanced	
5251CS, 5151CS . . . . .	12 k $\Omega$ , $\pm$ 5%
20 Hz - 20 kHz, balanced	
5. Maximum Output Attenuation . . . . .	>90 dB
6. Maximum Output Level	
5201CS, 5101CS, 5251CS, 5151CS . . . . .	+10 dBu, min
$R_L \geq 600 \Omega$	
5201CS-8, 5101CS-8, 5151CS-8 . . . . .	+8 VRMS. Min
$R_L \geq 8 \Omega$	
7. Output Impedance	
5201CS, 5101CS, 5251CS, 5151CS . . . . .	<0.5 $\Omega$
20 Hz - 20 kHz, Balanced and Floating	
5201CS-8, 5101CS-8 . . . . .	<0.5 $\Omega$
20 Hz - 20 kHz	
8. Frequency Response . . . . .	$\pm$ 0.5 dB
20 Hz - 20 kHz	
9. Total Harmonic Distortion, THD	
5201CS, 5101CS, 5251CS, 5151CS . . . . .	<.02%
2 kHz - 20 kHz, +24 dBu	
5201CS-8, 5101CS-8 . . . . .	<.3%
2 kHz - 20 kHz, 8 W, $R_L=8\Omega$	
10. Intermodulation Distortion, IMD	
5201CS, 5101CS, 5251CS, 5151CS . . . . .	<.1%
60 Hz/7 kHz, +24 dBu	
5201CS-8, 5101CS-8 . . . . .	<2%
60 Hz/7 kHz, 8 W, $R_L=8\Omega$	

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11. Signal-to Noise Ratio, S/N	
5201CS, 5101CS . . . . .	>60 dB
26 dB Gain, referred to +2 dBu, , 22 Hz - 22 kHz filters	
5201CS-8, 5101CS-8, . . . . .	>60 dB
below 1 W reference, 26 dB gain, , 22 Hz - 22 kHz filters	
5251CS, 5151CS . . . . .	>60 dB
52 dBGain, referred to +2 dBu, , 22 Hz - 22 kHz filters	
12. Common Mode Rejection Ratio, CMRR	
5201CS, 5201CS-8, 5101CS, 5101CS-8 . . . . .	>60 dB
20 Hz - 20 kHz	
5251CS, 5151CS . . . . .	>80 dB
20 Hz - 20 kHz	
13. Compressor Characteristics	
Gain, Input Gain Set to Minimum	
Compression Threshold, Input Gain Set to Minimum	
5201CS, 5201CS-8, 5101CS, 5101CS-8 . . . . .	-20.5 dB
5251CS, 5151CS . . . . .	48.5 dB
Compression Threshold, Input Gain Set to Maximum	
5201CS, 5201CS-8, 5101CS, 5101CS-8 . . . . .	-40.5 dB
5251CS, 5151CS . . . . .	-73.5 dB
Compression Ratio . . . . .	6:1
Attack Time, 10 dB input step. . . . .	5 mSec
Release Time	
40 dB input drop. . . . .	15 Sec
10 dB input drop . . . . .	3 Sec
14. Switch Control Characteristics	
5201CS, 5201CS-8, 5251CS, 5101CS, 5101CS-8, 5151CS	
Switch Control Terminal Open . . . . .	Channel OFF
Switch Control Terminal Grounded . . . . .	Channel ON
16. Power Requirements	
Supply Voltage . . . . .	±15 V
Typical Current Drain	
5201CS. . . . .	79 mA
5201CS-8	
Quiescent . . . . .	81 mA
8 W, $R_L=8\Omega$ . . . . .	500 mA
5251CS. . . . .	83 mA
5101CS. . . . .	59 mA
5101CS-8	
Quiescent . . . . .	61 mA
8 W, $R_L=8\Omega$ . . . . .	500 mA
5151CS. . . . .	61 mA
17. DC Voltage Short Circuit Protection	
5201CS, 5251CS, 5101CS, 5151CS . . . . .	Thermistor (Self Resetting)
5201CS-8, 5101CS-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

5201CS . . . . .	(336 gm) 0.74lb
5201CS-8 . . . . .	(323 gm) 0.71lb
5251CS. . . . .	(331gm) 0.73lb
5101CS. . . . .	(227 gm) 0.50lb
5101CS-8 . . . . .	(213 gm) 0.47lb
5151CS. . . . .	(227 gm) 0.50lb

**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

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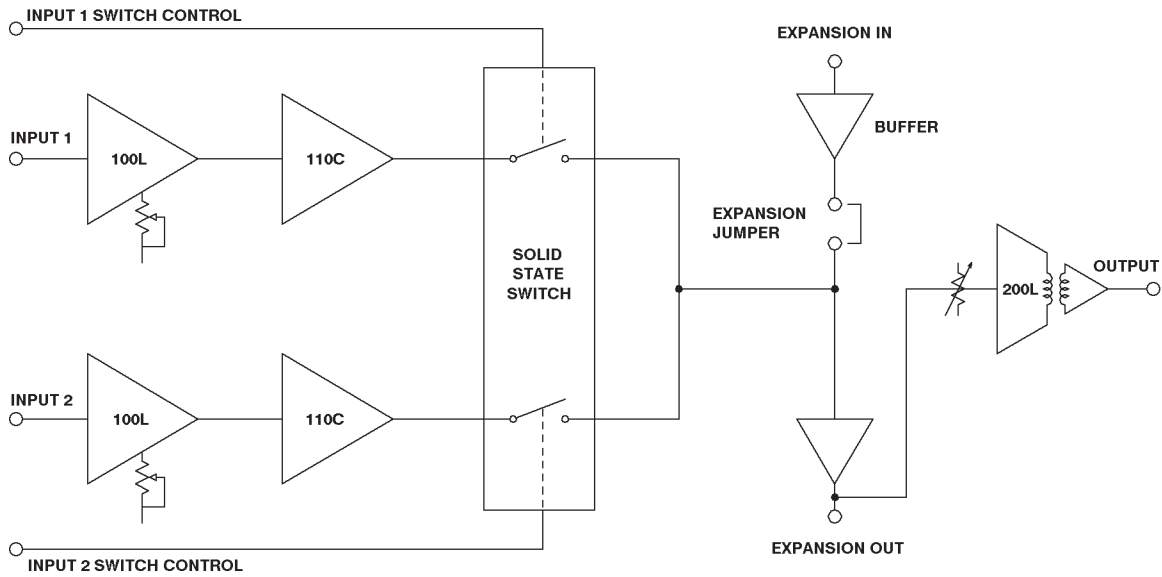


Figure 1 - 5201CS Block Diagram

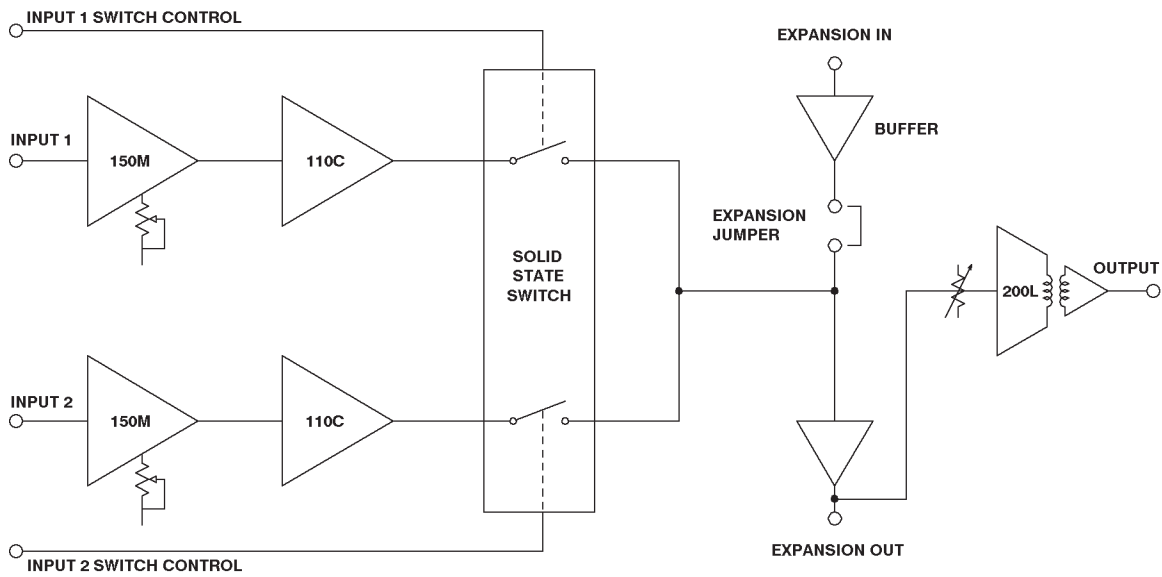


Figure 2 - 5251CS Block Diagram



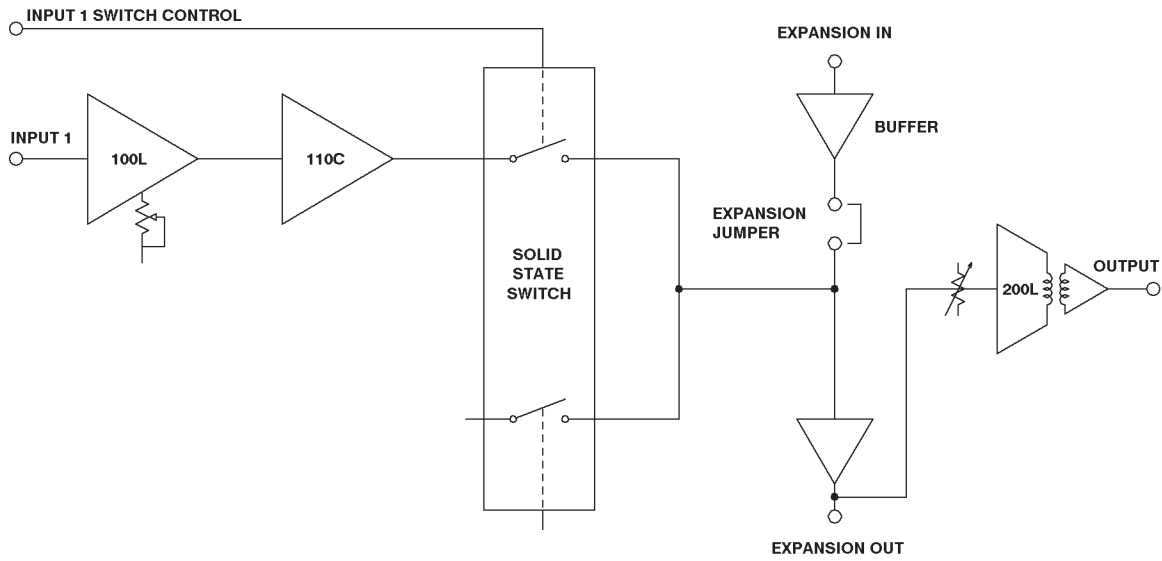


Figure 3 - 5101CS Block Diagram

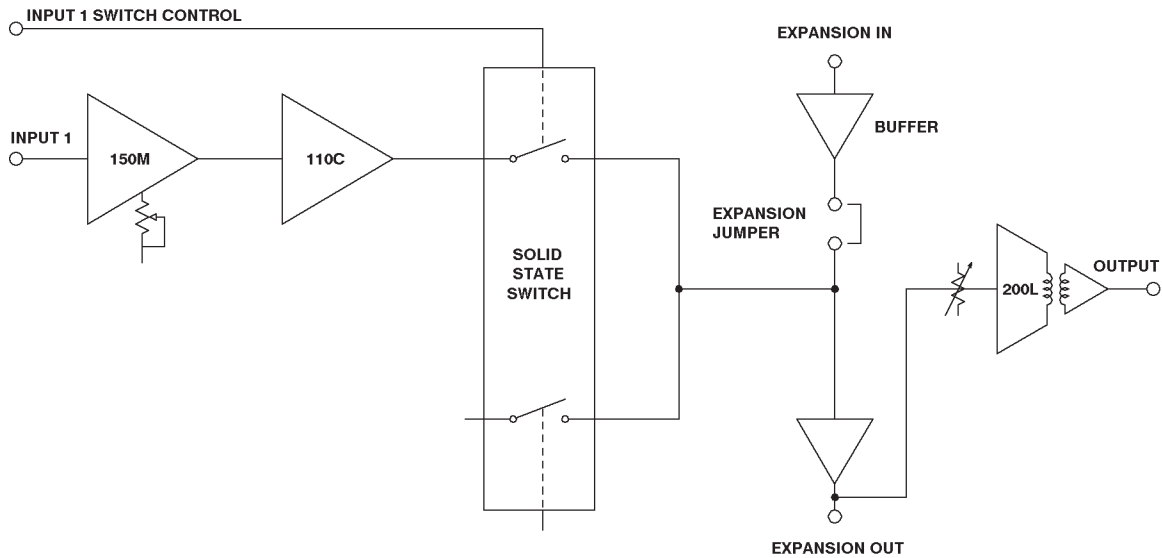


Figure 4 - 5151CS Block Diagram

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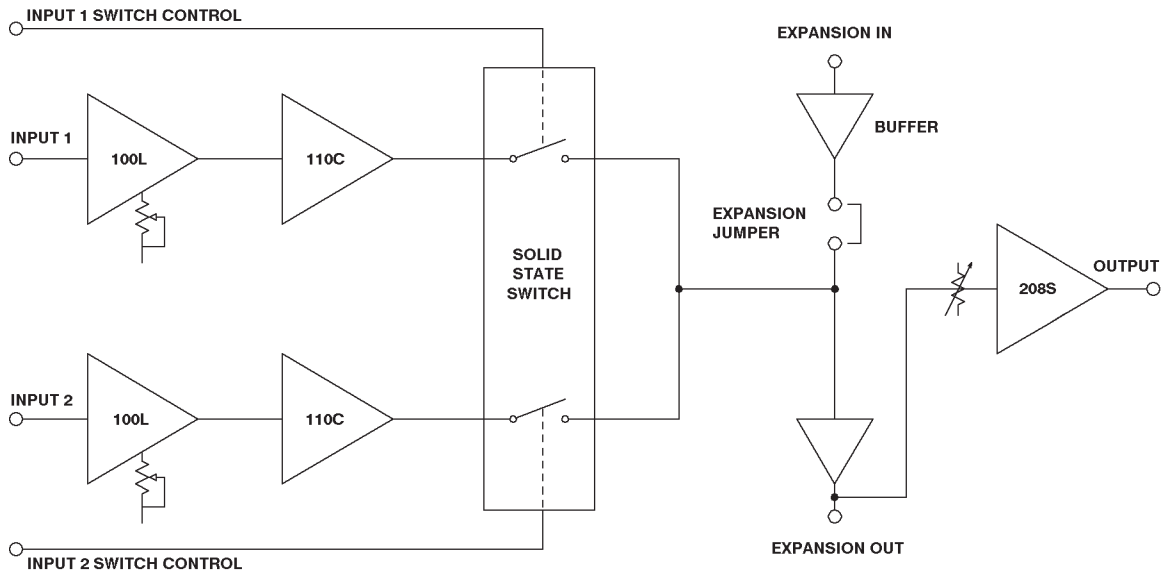


Figure 5 - 5201CS-8 Block Diagram

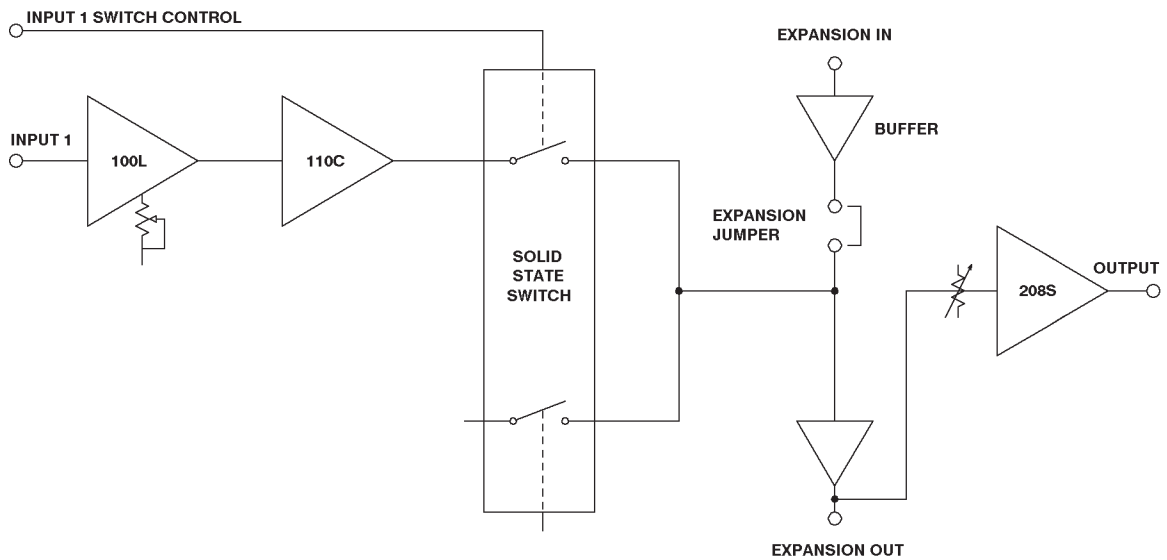


Figure 6 - 5101CS-8 Block Diagram



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