

**5401, 5401-8, 5400E, 5451, 5450E**

**FOUR INPUT, ONE OUTPUT MIXER CARDS**

**DESCRIPTION**

The 5401 subgroup of the 5000 Series Audio Processing System consists of six cards as described in Table 1 below. Each card has four 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	NUMBER OF OUTPUTS	OUTPUT LEVEL
5401	4	Line	1	Line
5401-8	4	Line	1	Speaker
5400E	4	Line	0	-
5451	4	Microphone	1	Line
5450E	4	Microphone	0	-

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.



**SPECIFICATIONS**

**ELECTRICAL**

1. Maximum Gain	
5401 . . . . .	24 dB
5401-8 . . . . .	34 dB
5400E . . . . .	18 dB
5451 . . . . .	57 dB
5450E . . . . .	51 dB
2. Input Gain Range	
5401, 5401-8, 5400E . . . . .	-2 dB - +18 dB
5451, 5450E . . . . .	+26 dB - +51 dB
3. Maximum Input Level	
At Minimum Input Gain	
5401, 5401-8, 5400E . . . . .	+22 dBu
5451, 5450E . . . . .	-5 dBu
At Maximum Input Gain	
5401, 5401-8, 5400E . . . . .	+2 dBu
5451, 5450E . . . . .	-31 dBu
4. Input Impedance (20 Hz - 20 kHz, Balanced)	
5401, 5401-8, 5400E . . . . .	10 M $\Omega$ in parallel with 1000 pF
5451, 5450E . . . . .	12 k $\Omega$ , $\pm$ 5%
5. Maximum Output Attenuation . . . . .	
	>90 dB
6. Maximum Output Level,	
5401, 5451 ( $R_L \geq 8 \Omega$ ) . . . . .	+24 dBu , min
5401-8 ( $R_L \geq 8 \Omega$ ) . . . . .	+8 VRMS, min
7. Output Impedance (20 Hz - 20 kHz)	
5401, 5451 (Balanced and Floating) . . . . .	<0.5 $\Omega$
5401-8 . . . . .	<0.5 $\Omega$
8. Frequency Response, 20 Hz - 20 kHz . . . . .	
	$\pm$ 0.5 dB
9. Total Harmonic Distortion, THD (20 Hz - 20 kHz)	
5401, 5451 (+24 dBu) . . . . .	<0.02%
5401-8 (8 W, $R_L = 8\Omega$ ) . . . . .	<0.3%
10. Intermodulation Distortion, IMD	
5401, 5451 (+24 dBu) . . . . .	<0.01%
5401-8 (8 W, $R_L=8\Omega$ ) . . . . .	< 0.3%
11. Signal-to Noise Ratio, S/N, (20 Hz - 20 kHz)	
5401, 5400E (Unity Gain, referred to +4 dBu) . . . . .	>85 dB
5401-8 (below 8 W reference, 16 dB gain) . . . . .	>85 dB
5451, 5450E (Gain = 54 dB, referred to +4 dBu) . . . . .	>70 dB
12. Common Mode Rejection Ratio, CMRR, 20 Hz - 20 kHz	
5401, 5401-8, 5400E . . . . .	>60 dB
5451, 5450E . . . . .	>80 dB

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13. Power Requirements	
Supply Voltage . . . . .	±15 V
Typical Current Drain	
5401 . . . . .	56 mA
5401-8	
Quiescent . . . . .	58 mA
8 W, $R_L=8 \Omega$ . . . . .	500 mA
5400E . . . . .	34 mA
5451 . . . . .	68 mA
5450E . . . . .	46 mA
14. DC Voltage Short Circuit Protection	
5401, 5451, 5400E, 5450E . . . . .	Thermistor (Self Resetting)
5401-8 . . . . .	1.5 A Pico Fuse

**MECHANICAL**

1. Size (maximum Overall Dimensions)	
Height . . . . .	2.8"
Width . . . . .	1.25"
Depth . . . . .	8.4"
2. Weight	
5401 . . . . .	0.50lb
5401-8 . . . . .	0.48lb
5451 . . . . .	0.52lb
5400E . . . . .	0.38lb
5450E . . . . .	0.39lb

**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



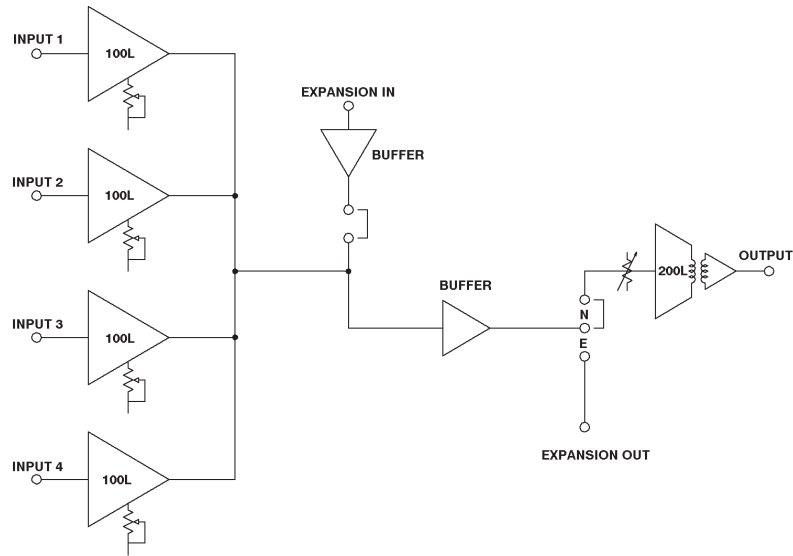


Figure 1 - 5401 Block Diagram

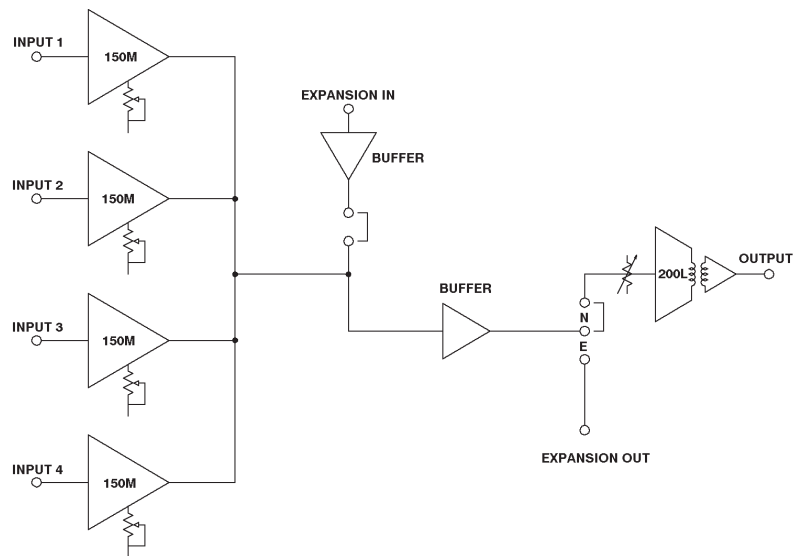


Figure 2 - 5451 Block Diagram

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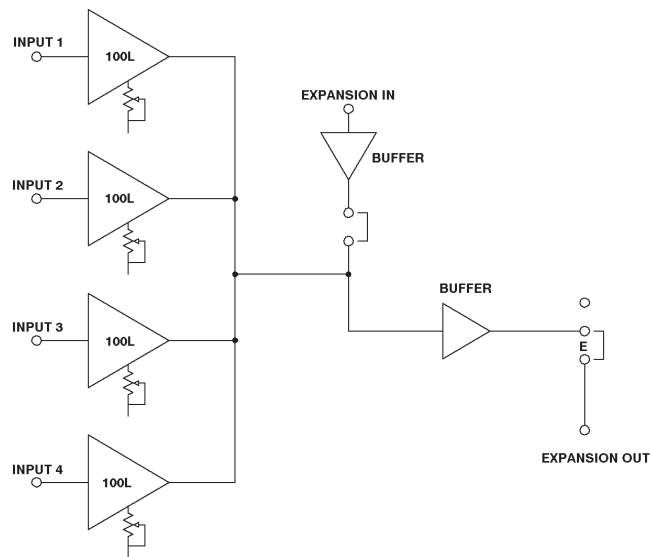


Figure 3 - 5400E Block Diagram

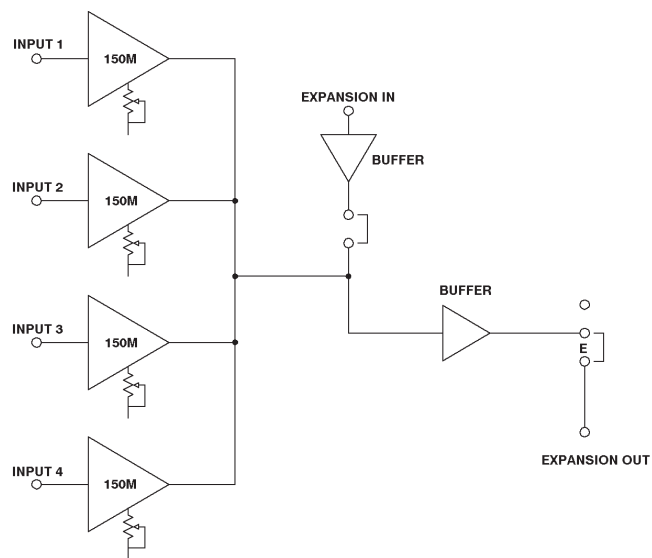


Figure 4 - 5450E Block Diagram



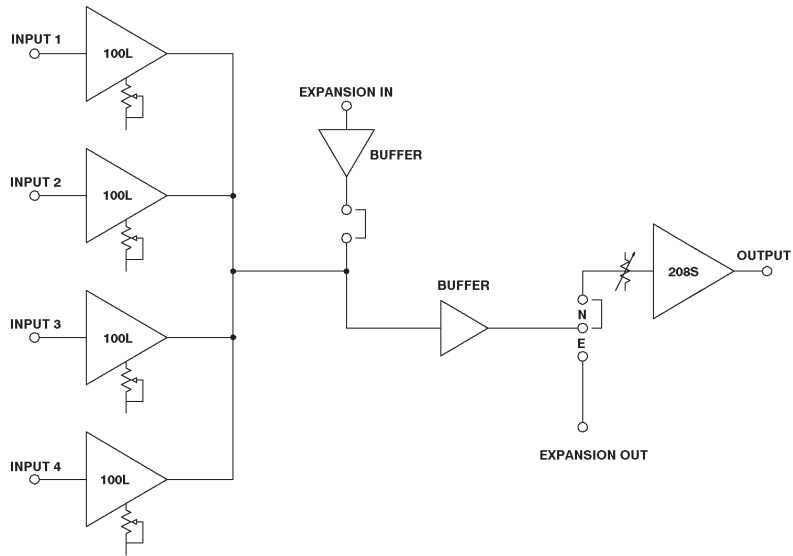


Figure 5 - 5401-8 Block Diagram

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