

**5104, 5154, 5004E**

**ONE INPUT, FOUR OUTPUT AUDIO DISTRIBUTION AMPLIFIER CARDS**

**DESCRIPTION**

The 5104 subgroup of the 5000 Series Audio Processing System consists of three cards as described in Table 1 below. Each card has one balanced input distributed to four balanced, floating outputs. In the case of the expansion card (model 5004E), which is used for adding extra outputs, the input is not available externally. It is routed, via the mother board, to the expansion output of the card located in the next slot to the left (as seen from the front) in the 5032 Mainframe.

MODEL	NUMBER OF INPUTS	INPUT LEVEL	NUMBER OF OUTPUTS	OUTPUT LEVEL
5104	1	Line	4	Line
5004E	0	-	4	Line
5154	1	Microphone	4	Line

Table 1 - Model Descriptions

The 5104 has a line level input using the Model 100L Active Input Module for input signal processing. The 5154 has a microphone level input using the Model 150M Active Input Module for input signal processing. All outputs use Model 200L Active Output Modules, with balanced floating outputs, as drivers for the external loads.

**SPECIFICATIONS**

**ELECTRICAL**

1. Maximum Gain
  - 5104 . . . . . 24 dB
  - 5004E . . . . . 6 dB
  - 5154 . . . . . 57 dB
2. Input Gain Range
  - 5104 . . . . . -2 dB - +18 dB
  - 5154 . . . . . +26 dB - +51 dB
3. Maximum Input Level
  - At Minimum Input Gain
    - 5104 . . . . . +22 dBu
    - 5154 . . . . . -5 dBu
  - At Maximum Input Gain
    - 5104 . . . . . +2 dBu
    - 5154 . . . . . -31 dBu



4. Input Impedance (20 Hz - 20 kHz, Balanced)	
5104 . . . . .	10 M $\Omega$ in parallel with 1000 pF
5154 . . . . .	12 k $\Omega$ , $\pm$ 5%
5. Maximum Output Attenuation . . . . .	>90 dB
6. Maximum Output Level, . . . . .	+24 dBu, min
R <sub>L</sub> $\geq$ 600 $\Omega$	
7. Output Impedance . . . . .	<0.5 $\Omega$
20 Hz - 20 kHz, Balanced and Floating	
8. Frequency Response . . . . .	$\pm$ 0.5 dB
20 Hz - 20 kHz	
9. Total Harmonic Distortion, THD . . . . .	<.02%
20 Hz - 20 kHz, +24 dBu	
10. Intermodulation Distortion, IMD . . . . .	<.01%
60 Hz/7 kHz, +24 dBu	
11. Signal-to Noise Ratio, S/N	
5104, 5004E . . . . .	>95 dB
Unity Gain, referred to +4 dBu, 22 Hz - 22 kHz filters	
5154 . . . . .	>76 dB
Gain = 54 dB, referred to +4 dBu, 22 Hz - 22 kHz filters	
12. Common Mode Rejection Ratio, CMRR	
5104 . . . . .	>60 dB
20 Hz - 20 kHz	
5154 . . . . .	>80 dB
20 Hz - 20 kHz	
13. Power Requirements	
Supply Voltage . . . . .	$\pm$ 15 V
Typical Current Drain	
5104 . . . . .	85 mA
5154 . . . . .	90 mA
5004E . . . . .	80mA
14. DC Voltage Short Circuit Protection . . . . .	Thermistor (Self Resetting)

**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	
5104 . . . . .	(341 gm) 0.75lb
5154 . . . . .	(341 gm) 0.75lb
5004E . . . . .	(286 gm) 0.63lb

**ENVIRONMENTAL**

1. Operating Temperature Range . . . . .	(+32 $^{\circ}$ F - +131 $^{\circ}$ F) 0 $^{\circ}$ C - +55 $^{\circ}$ C
2. Storage Temperature Range. . . . .	(-40 $^{\circ}$ F - +158 $^{\circ}$ F) -40 $^{\circ}$ C - +70 $^{\circ}$ C

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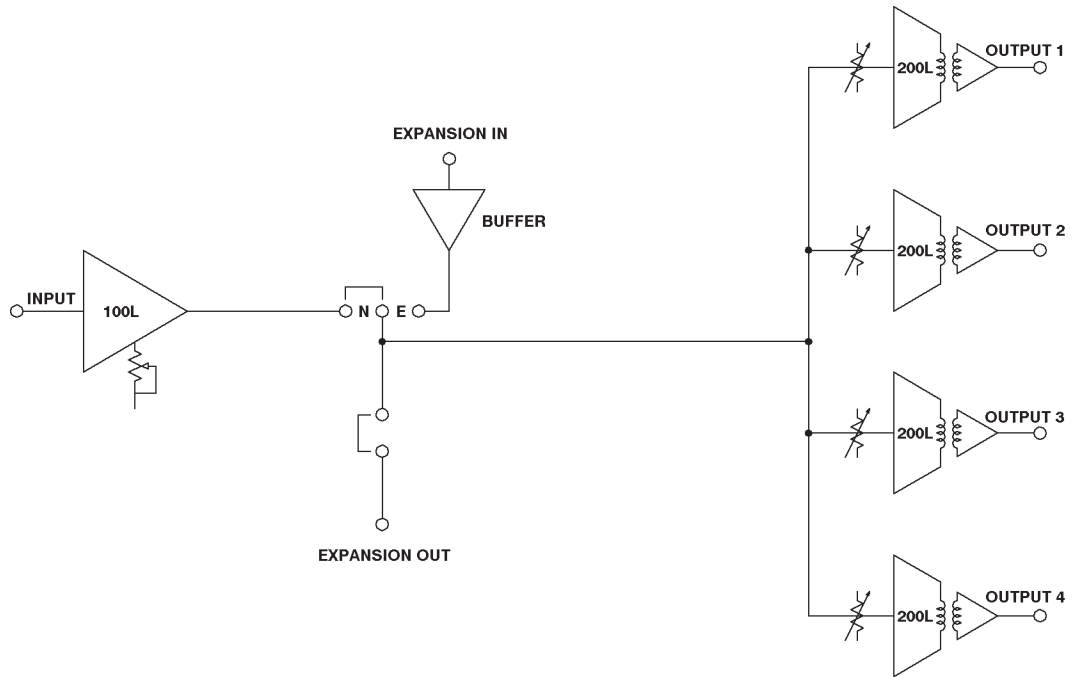


Figure 1 - 5104 Block Diagram

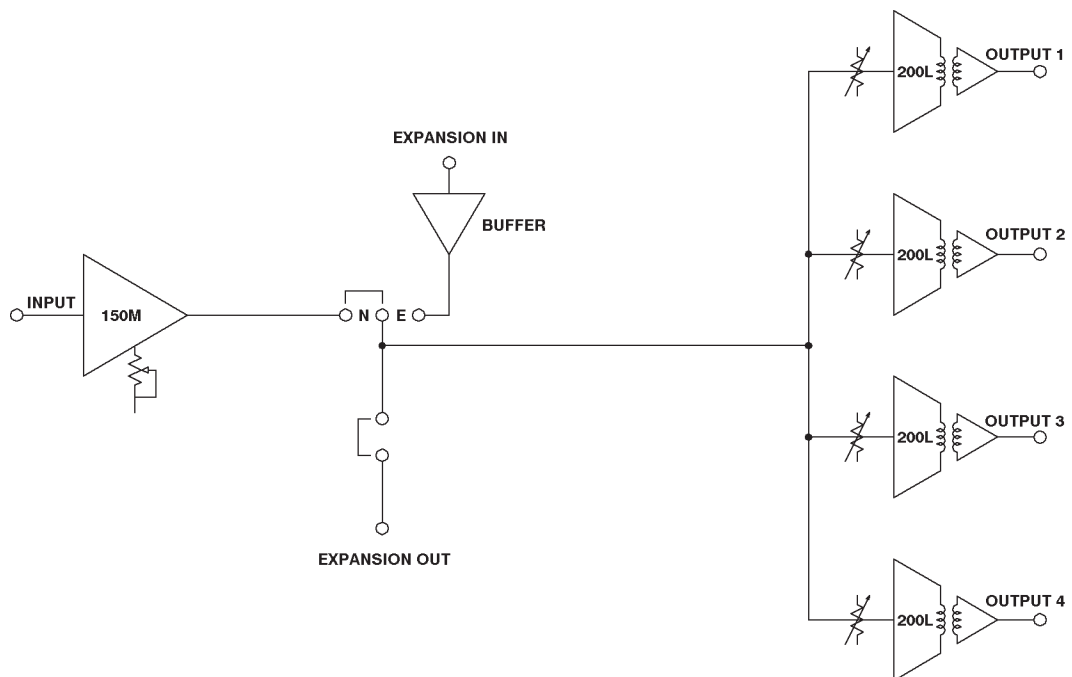


Figure 2 - 5154 Block Diagram



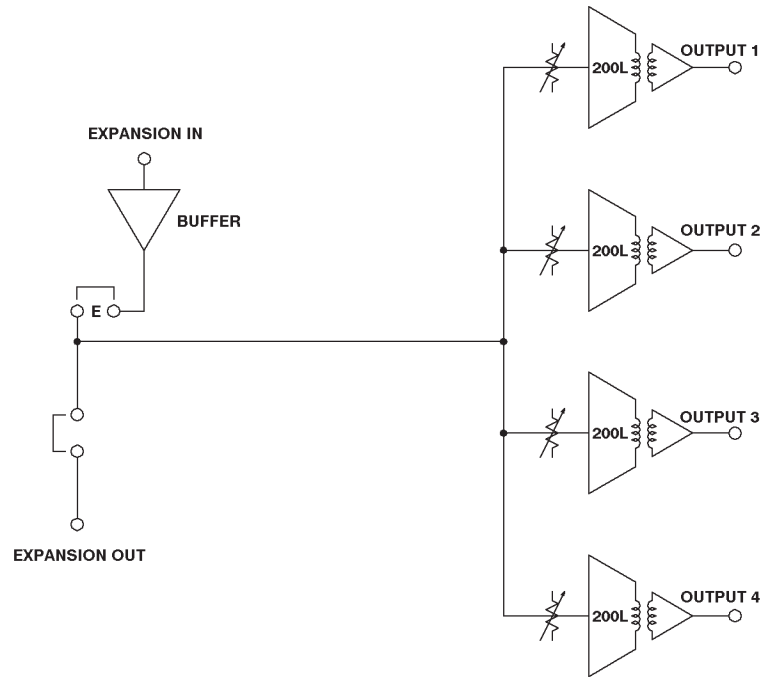


Figure 3 - 5004E Block Diagram