5201, 5201-8, 5251,5101, 5101-8, 5151

TWO INPUT, ONE OUTPUT MIXER CARDS

DESCRIPTION

The 5201 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. 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
5201	2	Line	1	Line
5201-8	2	Line	1	Speaker
5251	2	Microphone	1	Line
5101	1	Line	1	Line
5101-8	1	Line	1	Speaker
5151	1	Microphone	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.

SPECIFICATIONS

ELECTRICAL

1. Maximum Gain
   - 5201, 5101 . . . . . 24 dB
   - 5201-8, 5101-8 . . . . . 34 dB
   - 5200E . . . . . 18 dB
   - 5251, 5151 . . . . . 57 dB
   - 5251-8,5151-8 . . . . . 67 dB
   - 5250E . . . . . 51 dB
2. Input Gain Range
   - 5201, 5201-8, 5101, 5101-8 . . . . . –2 dB - +18 dB
   - 5251, 5151 . . . . . +26 dB - +51 dB

3. Maximum Input Level
   At Minimum Input Gain
      5201, 5201-8, 5101, 5101-8 . . . . . +22 dBu
      5251, 5151 . . . . . –5 dBu
   At Maximum Input Gain
      5201, 5201-8, 5101, 5101-8 . . . . . +2 dBu
      5251, 5151 . . . . . –31 dBu
4. Input Impedance
   5201, 5201-8, 5101, 5101-8 . . . . . 10 MΩ in parallel with 1000 pF
      20 Hz - 20 kHz, Balanced
   5251, 5151 . . . . . 12 kΩ, ±5%
      20 Hz - 20 kHz, Balanced
5. Maximum Output Attenuation . . . . . >90 dB
6. Maximum Output Level
   5201, 5101, 5251, 5151 . . . . . +24 dBu, min
      $R_L \geq 600\ \Omega$
   5201-8, 5101-8 . . . . . +8 VRMS, min
      $R_L \geq 8\ \Omega$
7. Output Impedance
   5201, 5101, 5251, 5151 . . . . . <0.5 Ω
      20 Hz – 20 kHz, Balanced and Floating
   5201-8, 5101-8. . . . . <0.5 Ω
      20 Hz – 20 kHz
8. Frequency Response . . . . . ±0.5 dB
   20 Hz - 20 kHz
9. Total Harmonic Distortion, THD
   5201, 5101, 5251, 5151. . . . . <.02%
      +24 dBu, 20 Hz - 20 kHz
   5201-8, 5101-8 . . . . . <.3%
      8 W, R_L=8 Ω, +24 dBu
10. Intermodulation Distortion, IMD
   5201, 5101, 5251, 5151. . . . . <.01%
      60 Hz/7 kHz, +24 dBu
   5201-8, 5101-8 . . . . . < .3%
      60 Hz/7 kHz, 8 W, R_L=8Ω
11. Signal-to Noise Ratio, S/N
   5201, 5101 . . . . . >95 dB
      Unity Gain, referred to +4 dBu, 22 Hz - 22 kHz filters
   5201-8, 5101-8 . . . . . >95 dB
      Below 8 W reference, 16 dB gain, 22 Hz - 22 kHz filters
   5251, 5151 . . . . . >76 dB
      Gain = 54 dB, referred to +4 dBu, 22 Hz - 22 kHz filters
12. Common Mode Rejection Ratio, CMRR
   20 Hz - 20 kHz
      5201, 5201-8, 5101, 5101-8 . . . . . >60 dB
      5251, 5151, 5151-8 . . . . . >80 dB

13. Power Requirements
    - Supply Voltage . . . . . ±15 V
    - Typical Current Drain
      - 5201 . . . . . 40 mA
      - 5201-8
        - Quiescent . . . . . 42 mA
        - 8 W, R_L=8 Ω . . . . . 500 mA
      - 5251 . . . . . 44 mA
      - 5251-8
        - Quiescent . . . . . 46 mA
        - 8 W, R_L=8 Ω . . . . . 500 mA
      - 5101 . . . . . 35 mA
      - 5101-8
        - Quiescent . . . . . 37 mA
        - 8 W, R_L=8 Ω . . . . . 500 mA
      - 5151 . . . . . 37 mA
      - 5151-8
        - Quiescent . . . . . 39 mA
        - 8 W, R_L=8 Ω . . . . . 500 mA
14. DC Voltage Short Circuit Protection
    - 5201, 5251, 5101, 5151 . . . . . Thermistor (Self Resetting)
    - 5201-8, 5101-8 . . . . . 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
   - 5201 . . . . . (1.22 cm) 0.48lb
   - 5201-8 . . . . . (1.17 cm) 0.46lb
   - 5251 . . . . . (1.27 cm) 0.50lb
   - 5251-8 . . . . . (1.22 cm) 0.48lb
   - 5200E . . . . . (0.914 cm) 0.36lb
   - 5250E . . . . . (0.939 cm) 0.37lb
   - 5101 . . . . . (0.939 cm) 0.37lb
   - 5101-8 . . . . . (0.889 cm) 0.35lb
   - 5151 . . . . . (0.965 cm) 0.38lb
   - 5151-8 . . . . . (0.914 cm) 0.36lb

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

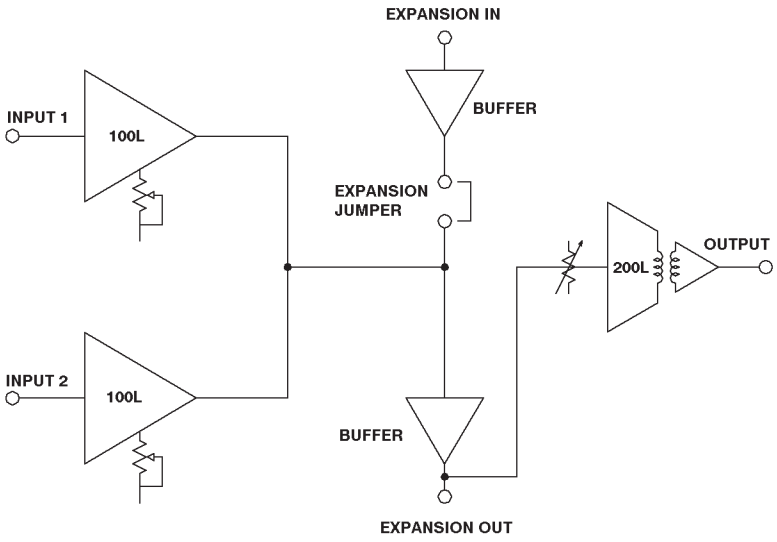

Figure 1 - 5201 Block Diagram

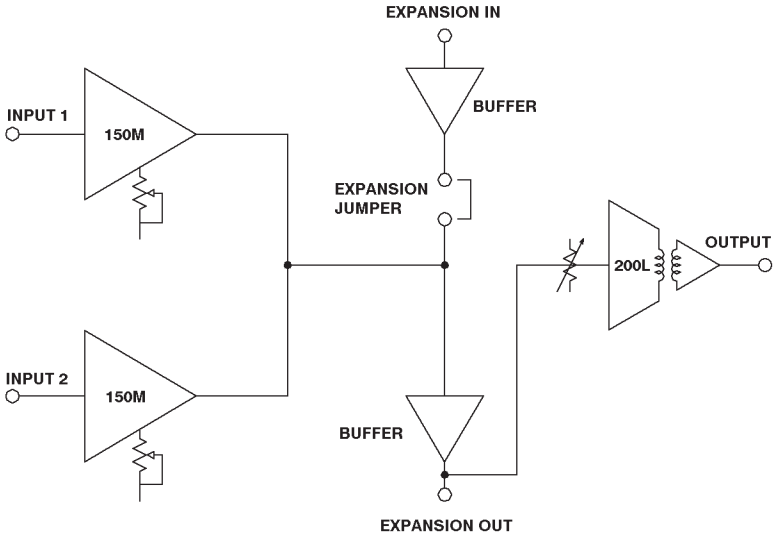

Figure 2 - 5251 Block Diagram

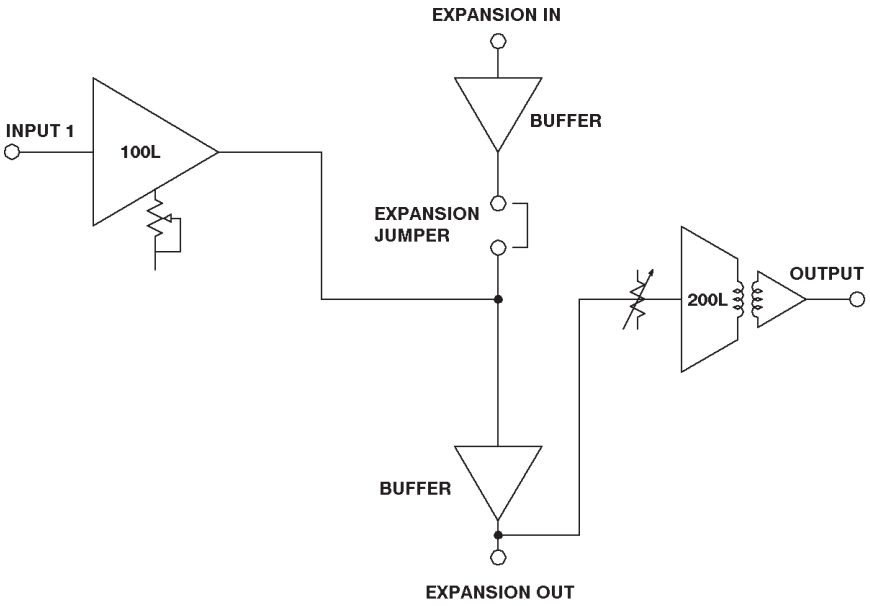

Figure 3 - 5101 Block Diagram

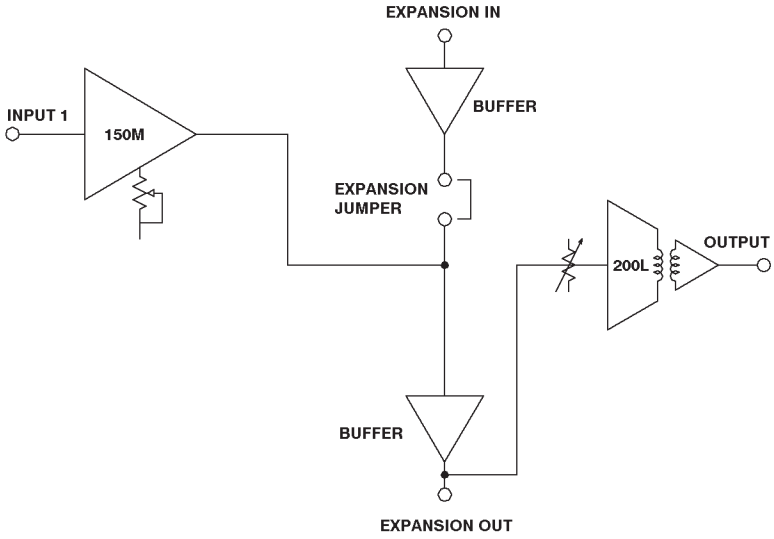

Figure 4 - 5151 Block Diagram

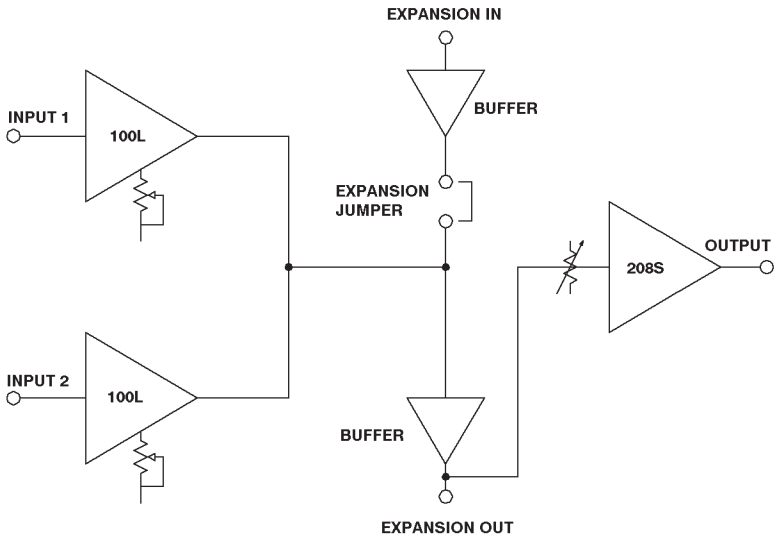

Figure 5 - 5201-8 Block Diagram

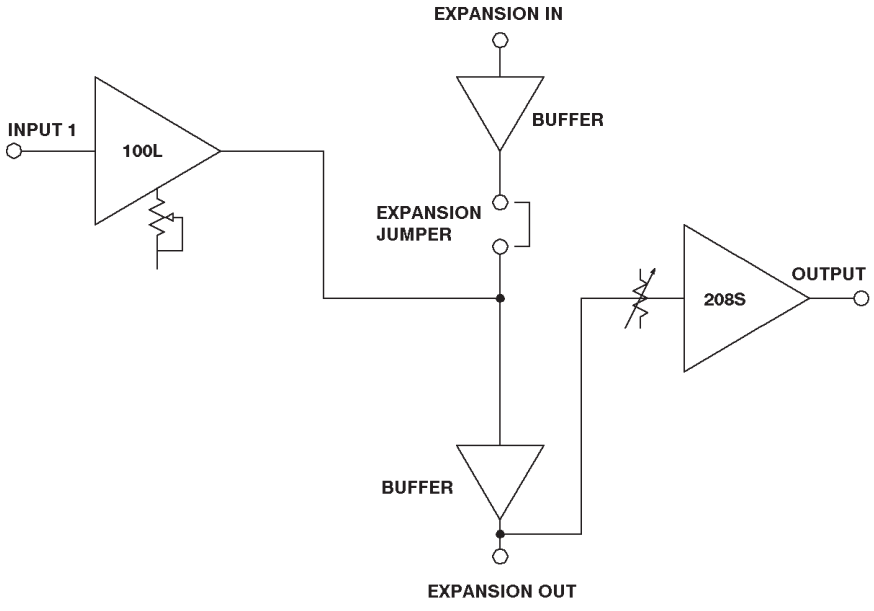

Figure 6 - 5101-8 Block Diagram