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

TWO INPUT, ONE OUTPUT MIXER CARDS WITH VOLTAGE CONTROLLED AMPLIFIER (VCA)

DESCRIPTION

The 5201V 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.

MODEL	NUMBER OF INPUTS	INPUT LEVEL	NUMBER OF OUTPUTS	OUTPUT LEVEL
5201V	2	Line	1	Line
5201V-8	2	Line	1	Speaker
5251V	2	Microphone	1	Line
5101V	1	Line	1	Line
5101V-8	1	Line	1	Speaker
5151V	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 use Model 200L Active Output Modules, with balanced floating outputs, as drivers for the external loads.

Each input has a Model 142 Voltage Controlled Amplifier module for remote control of the input level. Level control is accomplished with a 10 kΩ linear taper pot.

SPECIFICATIONS

ELECTRICAL

1. Maximum Gain
   - 5201V, 5101V . . . . . 24 dB
   - 5201V-8, 5101V-8 . . . . . 34 dB
2. Input Gain Range
   - 5201V, 5201V-8, 5101V, 5101V-8 . . . . . –2 dB - +18 dB
   - 5251V, 5151V . . . . . +26 dB - +51 dB
3. Maximum Input Level
   - At Minimum Input Gain
     - 5201V, 5201V-8, 5101V, 5101V-8 . . . . . +22 dBu
     - 5251V, 5151V . . . . . –5 dBu
   - At Maximum Input Gain
     - 5201V, 5201V-8, 5101V, 5101V-8 . . . . . +2 dBu
     - 5251V, 5151V. . . . . –31 dBu
4. Input Impedance
   - 5201V, 5201V-8, 5101V, 5101V-8 . . . . . 10 MΩ in parallel with 1000 pF
     20 Hz - 20 kHz, balanced
   - 5251V, 5151V . . . . . 12 kΩ, ±5%
     20 Hz - 20 kHz, balanced
5. Maximum Output Attenuation . . . . . >90 dB
6. Maximum Output Level
   - 5201V, 5101V, 5251V, 5151V. . . . . +24 dBu, min
     $R_L \geq 600\ \Omega$
   - 5201V-8, 5101V-8 . . . . . +8 VRMS, min
     $R_L \geq 8\ \Omega$
7. Output Impedance
   - 5201V, 5101V, 5251V, 5151V. . . . . <0.5 Ω
     20 Hz – 20 kHz, Balanced and Floating
   - 5201V-8, 5101V-8 . . . . . <0.5 Ω
     20 Hz – 20 kHz
8. Frequency Response . . . . . ±0.5 dB
   20 Hz - 20 kHz
9. Total Harmonic Distortion, THD
   - 5201V, 5101V, 5251V, 5151V . . . . . <.02%
     +24 dBu, 20 Hz - 20 kHz
   - 5201V-8, 5101V-8. . . . . <.3%
     8 W, $R_L = 8\Omega$, 20 Hz - 20 kHz
10. Intermodulation Distortion, IMD
    - 5201V, 5101V, 5251V, 5151V . . . . . <.01%
      +24 dBu, 60 Hz/7 kHz
    - 5201V-8, 5101V-8 . . . . . < 0.3%
      8 W, $R_L = 8\Omega$, 60 Hz/7 kHz

Innovative Electronic Designs, Inc. • 9701 Taylorsville Road • Louisville, Kentucky 40299 • USA
Phone: (502) 267-7436 • Fax: (502) 267-9070 • Internet: http://www.iedaudio.com

11. Signal to Noise Ratio, S/N
    - 5201V, 5101V . . . . . >95 dB
      Unity Gain, referred to +4 dBu, 20 Hz - 20 kHz
    - 5201V-8, 5101V-8 . . . . . >95 dB
      Below 8 W reference, 16 dB gain, 20 Hz - 20 kHz
    - 5251V, 5151V . . . . . >76 dB
      Gain = 54 dB, referred to +4 dBu, 20 Hz - 20 kHz
12. Common Mode Rejection Ratio, CMRR
    - 5201V, 5201V-8, 5101V, 5101V-8 . . . . . >60 dB
      20 Hz - 20 kHz
    - 5251V, 5151V . . . . . >80 dB
      20 Hz - 20 kHz
13. Voltage Controlled Amplifier (VCA) Control Characteristics
    - 0 dB point . . . . . 0.5 V, max
    - 16 dB point . . . . . 2.5 V, typ
    - 20 dB point . . . . . 3.47 V, ±5%
    - Full Mute (>70 dB) . . . . . 4.5 V, min
    - Control Terminal Open . . . . . Unity Gain
14. External Controls
    - Rotary Control . . . . . 10 kΩ linear taper pot
14. Power Requirements
    - Supply Voltage . . . . . ±15 V
    - Typical Current Drain
      - 5201V. . . . . 66 mA
      - 5201V-8
        - Quiescent . . . . . 68 mA
        - 8 W, R_L=8 Ω . . . . . 500 mA
      - 5251V. . . . . 70 mA
      - 5101V . . . . . 48 Ma
      - 5101V-8
        - Quiescent . . . . . 50 mA
        - 8 W, R_L=8 Ω . . . . . 500 mA
      - 5151V. . . . . 50 mA
15. DC Voltage Short Circuit Protection
    - 5201V, 5251V, 5101V, 5151V . . . . . Thermistor (Self Resetting)
    - 5201V-8, 5101V-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
   - 5201V . . . . . (318 gm) 0.70lb
   - 5201V-8 . . . . . (313 gm) 0.69lb
   - 5251V . . . . . (327 gm) 0.72lb
   - 5101V . . . . . (227 gm) 0.50lb
   - 5101V-8 . . . . . (209 gm) 0.46lb
   - 5151V . . . . . (222 gm) 0.49lb

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

Innovative Electronic Designs, Inc. • 9701 Taylorsville Road • Louisville, Kentucky 40299 • USA
Phone: (502) 267-7436 • Fax: (502) 267-9070 • Internet: http://www.iedaudio.com

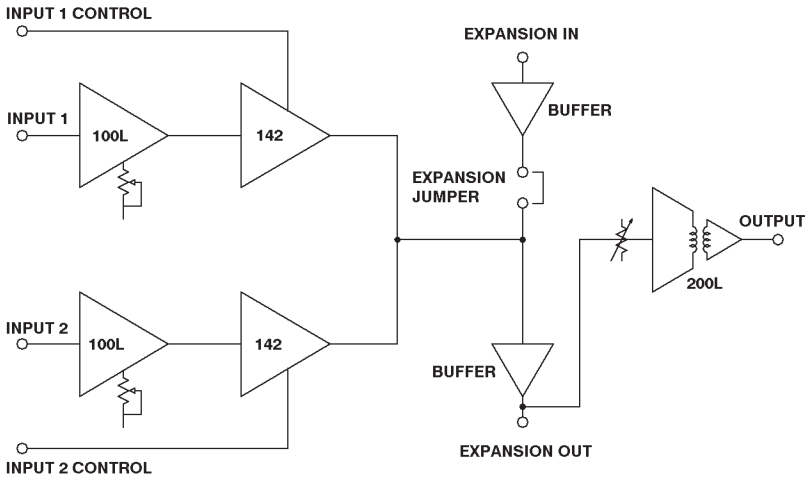

Figure 1 - 5201V Block Diagram

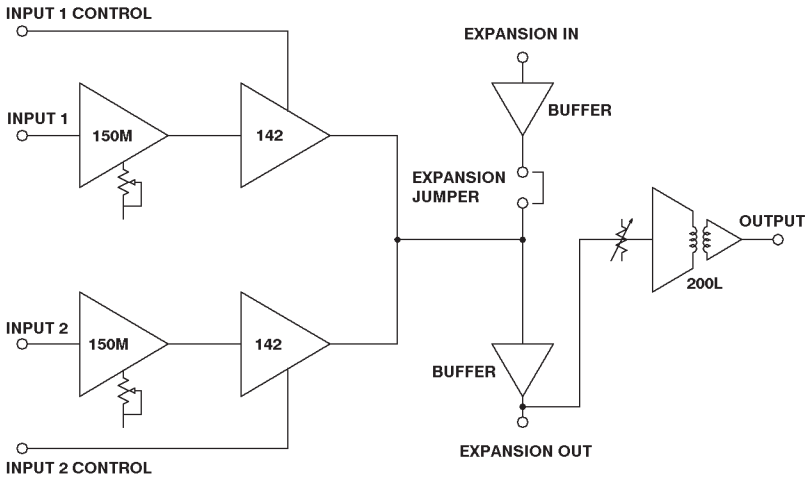

Figure 2 - 5251V Block Diagram

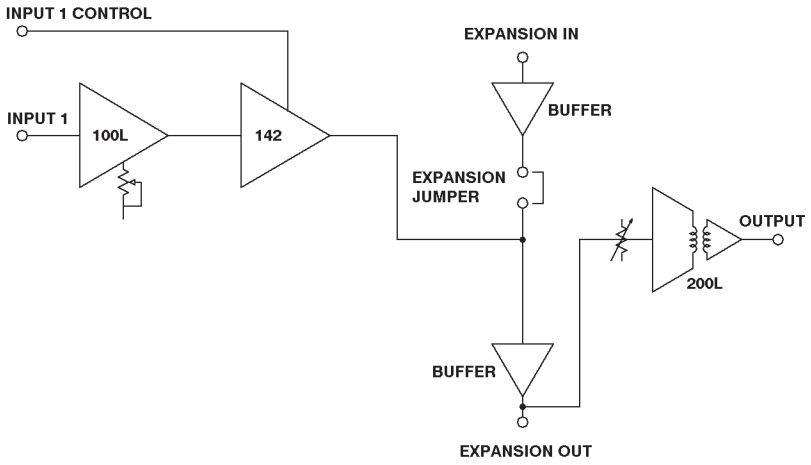

Figure 3 - 5101V Block Diagram

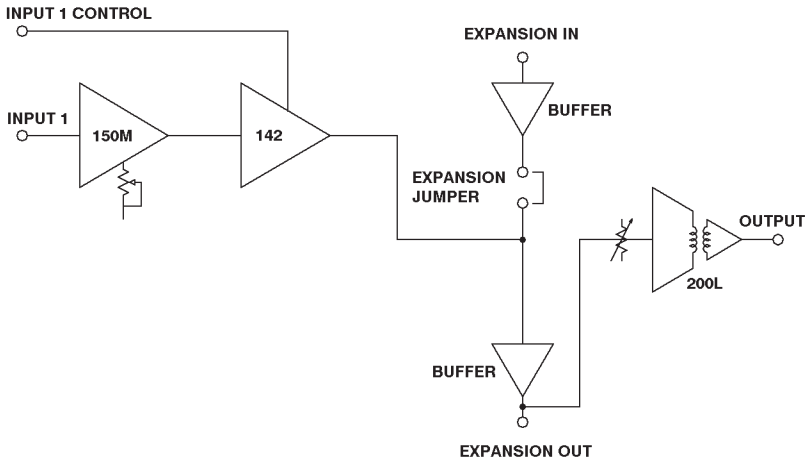

Figure 4 - 5151V Block Diagram

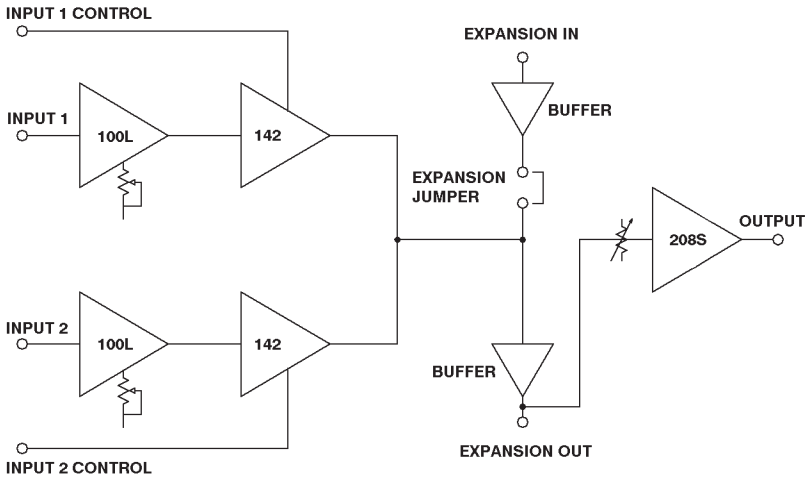

Figure 5 - 5201V-8 Block Diagram

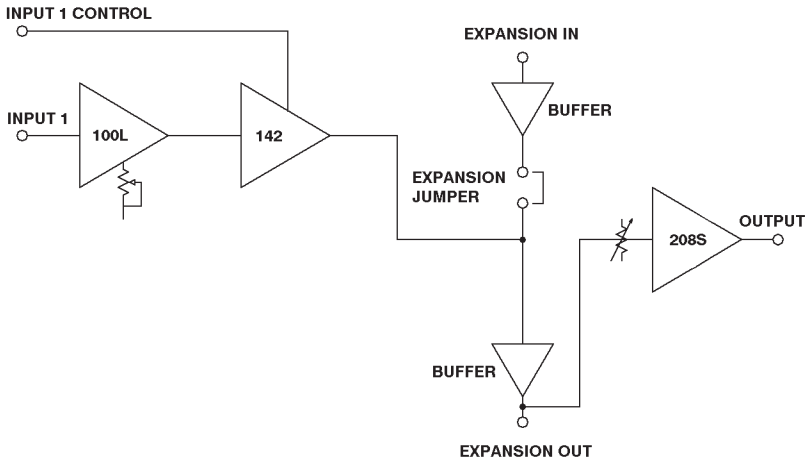

Figure 6 - 5101V-8 Block Diagram

This page left blank intentionally