

MODEL 8044DSP DIGITAL SIGNAL PROCESSING CARD

The Model 8044DSP Digital Signal Processing Card is a component of the IED8000 Series™. It is a 4-channel audio input/output card with digital signal processing capabilities on each output. These capabilities include parametric EQ, compression, and limiting.

The card has an on-board microcontroller (MCU) that sets up the signal processing functions for EQ, filters, compression and limiting. Each channel of parametric EQ contains nine filters or configurable bands. The EQ filters, compression parameters, and limiting parameters are all controllable via software within the IED Toolset Software.

The card has on-board non-volatile memory that can store signal processing parameters. The MCU communicates with the 8001CPU via an I²C bus on the mother board. A reset line on the mother board allows the 8001CPU to reset the MPU.

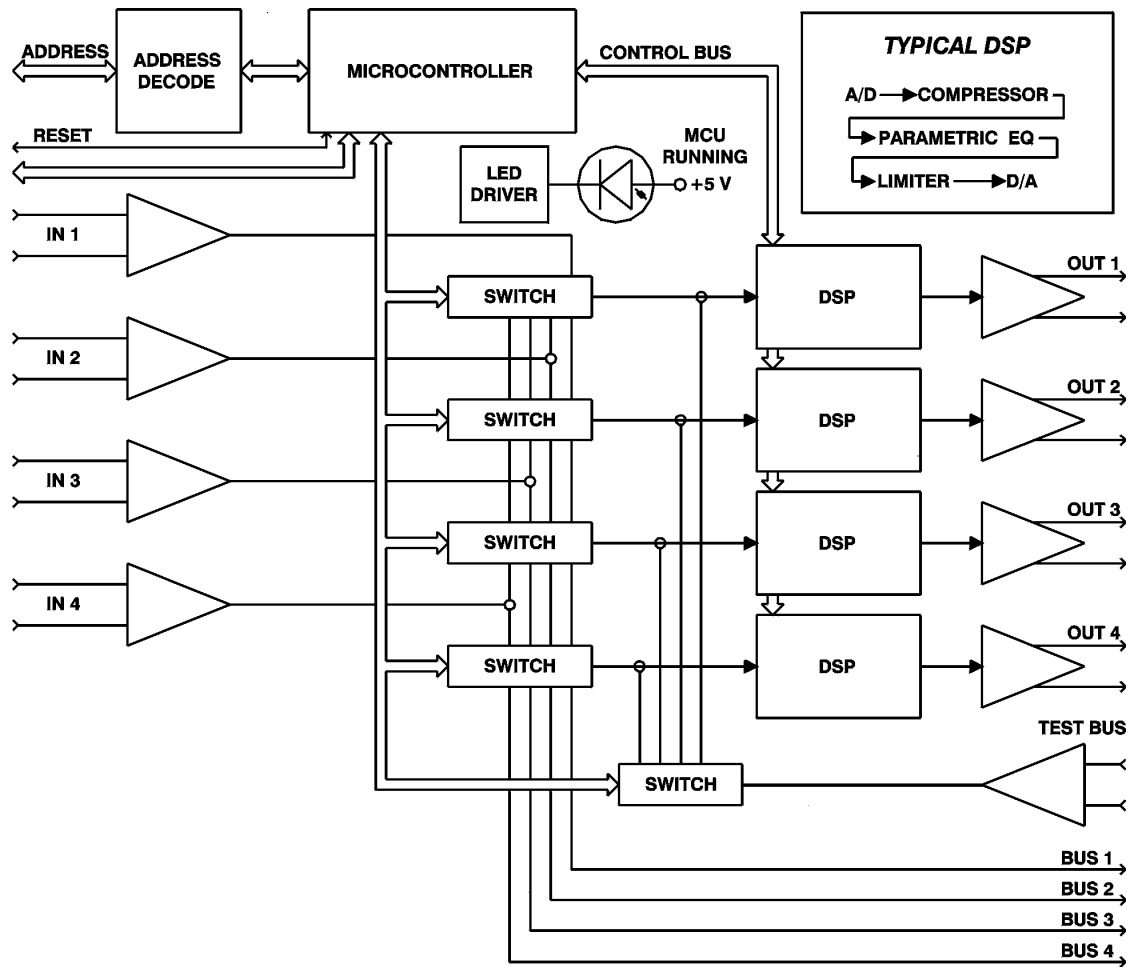


Figure 1 - 8044DSP Digital Signal Processing Card
Block Diagram



All switching is done under software control. Four buses which run the length of the mother board make it possible to source audio to/from other cards.

An Audio Test Signal Bus with a balanced input can be switched under software control to any output. The test tone will check the output driver and the MCU. This feature is used in conjunction with 8081MT cards and the 8001SA card to test audio points in the system with the 8000 Monitor/Test System. This feature also allows test tones to be introduced into output zones for testing of amplifier and speaker lines downstream of this card.

The on-board microcontroller communicates with the 8001CPU and the 8001SA through an I²C bus on the mother board. A reset line from the mother board allows the MCU to be reset from the 8001CPU.

A green LED located on the front edge of the card is illuminated when the MCU is running.

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SPECIFICATIONS

ELECTRICAL, ANALOG, EQ Set Flat

1. Frequency Response	+0, -0.2 dB
20 Hz - 20 kHz	
2. Total Harmonic Distortion, THD.	<0.03%
20 Hz - 20 kHz, 16 Hz - 80 kHz filters	
3. Intermodulation Distortion, IMD.	<0.03%
60 Hz/7 kHz	
4. Maximum Input Level	+18 dBu
5. Maximum Output Level	+18 dBu
$R_L = 600 \Omega$	
6. EQ Control Steps	1/2 dB
7. Maximum cut and boost.	12 dB
8. Power Supply	
Supply Voltage Range	
+15 V Supply	+14.25 V to +15.75 V
-15 V Supply	-14.25 V to -15.75 V
Supply current	
V= +15 V	450 mA
V= -15 V.	100 mA

INDICATORS

1. MCU Running	Green LED
2. System or card reset	Red LED

CONNECTORS

1. 32-pin Euro Connector, male, right-angle (2 each). . .	Hirose PCN10-32P-2.54DS
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MECHANICAL

1. Size (maximum overall dimensions as viewed from the front)	
Height.	(11.43 cm) 4.50"
Width	(2.03 cm) 0.80"
Depth.	(20.42 cm) 8.04"
2. Weight	(217 gm) 0.48 lb

ENVIRONMENTAL

1. Operating Temperature Range	(+32 °F - +104 °F) 0 °C - +40 °C
2. Storage Temperature Range	(-40 °F - +158 °F) -40 °C - +70 °C



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